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ABSTRACT

The Newark (New Jersey) School District's Twice-Retained Program was evaluated for 1985-86. This alternative program was designed for students in grades 1 through 8 who had a history of two or more grade retentions. It emphasized instruction in reading and mathematics and evaluated the pre- and post-program performance in those areas, as well as on scales of affective and social development. Other variables included classroom setting (heterogeneous or homogeneous grouping), teacher expectations, degree of implementation of the curriculum model, and recency of retention. The program was based on Madeline Hunter's Instructional Theory into Practice (ITIP), which emphasizes: (1) selecting learning at the correct level of difficulty; (2) teaching to the objective; (3) monitoring learning and adjusting the teaching; and (4) using the principles of learning. Results showed that classification into the Twice-Retained program benefited students more in mathematics than in reading, where achievement declined in the higher grades. Also, mathematics achievement was higher in the homogeneously grouped classes. More benefit accrued when the academic retention was recent, and when the students were in the earlier grades (in reading). On the affective measures, students who were heterogeneously grouped fared better than those homogeneously grouped, suggesting an adverse effect of labeling retained students. (JGL)

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Newark School District

Twice-Retained Program 1985-1986

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An Evaluation of

THE NEWARK SCHOOL DISTRICT TWICE-RETAINED PROGRAM

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and

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August 1986

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CHAPTER 1

The Twice-Retained Program

Introduction

An alternative academic program entitled "The Twice-Retained Program" was established i the Newark School District during the 1985-86 school year. The program was specifically developed for those students in grades 1 through 8 who had been retained more than once throughout their school history. The goal of the program was to maximize these students' learning potentialities in the primary basic skills areas of reading and mathematics.

The establishment of this program arose out of the perceived need by the school district to provide an alternative instructional framework through which the students demonstrating the greatest learning deficiencies as evidenced by a repetitive pattern of retention could be helped. A preliminary profile of the "twice-retained student" in the district indicated that this student tended to have a high rate of absenteeism; was low on social and personal adjustment; and had a history of poor academic performance(Azumi, 1985).

In approaching the problem of what to do with these students, the district felt that exposing them to a curriculum similar to what was in place prior to the establishment of the program would not prove to be an effective instructional strategy. Consequently, it was decided that several instructional factors had to be altered if these students were to succeed. First, the manner in which the curriculum was implemented had to be changed. In order to accomplish this, the district relied extensively on the model of Instructional Theory into Practice as developed by Madeline Hunter. Second, the setting of the program was to be such, that students would be provided with the optimum opportunities for learning. Third, the curriculum for these

students was to be designed in order to facilitate the development of competencies in the areas of reading and mathematics.

The actual implementation of the program along these three dimensions did not go as smoothly as was envisioned by the planning committee. Several factors were responsible for this. First, the original directives issued to building principals gave them great latitude in how the program could be implemented. Second, no clear consistent guidelines in terms of entrance and exit criterion, grouping, instructional methods, curriculum focus, parental involvement, and reporting system were ever established before the program was implemented in the schools. The consequences of which, were great variations in the scope and form of the program from school to school. Concern with the lack of systematization and standardization of the program led to the establishment of a committee during November 1986, whose task it was to shape the program by providing clear and specific directives on all facets of the program. Some of the recommendations proffered by the committee were implemented by the schools.

The evaluation of the program is based on two primary concerns, (a) Did the program make an impact on participants in both their cognitive development and personal and social adjustment and (b) What was the degree of implementation of the I.T.I.P. Model which was the most distinctive feature of the program?

Program Implementation

Narrative information on the implementation of the program in five areas is provided in the ensuing pages.

Program Setting

The program existed in 48 elementary schools in the district. Because each principal had discretionary power over the establishment of the program in his or her school, there were variations in the program setting. Two

modalities emerged in which it was possible to identify 3 settings. First, special classrooms were set up for project participants. These students therefore received their regular developmental as well as compensatory instruction from teachers designated as twice-retained teachers. This type of setting was labeled as a "homogeneous setting" since the developmental as well as compensatory classrooms were composed only of twice retained students. There were 10 elementary schools in which this form of setting occurred. The other modality involved participants receiving developmental instruction in the regular classroom with nonparticipants, this type of setting was labeled "heterogeneous".

Both types of setting could be found in some schools. Generally, in these schools a homogeneous setting was used either at those grade levels where the numbers were large enough, or through the creation of a cluster of grades. However, one of the problems that accompanied this was the creation of twice retained classrooms in which the span of grade levels covered was greater than 3. In other words, one could have classrooms in which the students were from grade levels 4 through 8. This was one practice which schools were subsequently dissuaded from continuing.

Of the total number of 1,292 participants in the program, approximately 417 or 32 percent were in a homogeneous setting, and 848 or 66 percent were in a heterogeneous setting.

Student Selection

Students were eligible to be in the program if they had a history of multiple retentions ie - two or more retentions. There were no fixed guidelines on when these retentions should have occurred, hence a student in the eighth grade who might have been retained in the 1st and 2nd grade was eligible to be in the program. The exit criterion established stated that students

could only graduate from the program if they performed at or above the minimum level of proficiency in either reading or mathematics. However, a student could not spend more thar 2 years in the program.

Table 1
Retention History of Participants By
Grade Level

No. of Retentions \ Grade	1	2	3	4	5	6	7	8
1		1	1	1		1	3	2
2	35	91	139	209	226	166	154	132
3	1	3	8	17	17	13	13	4
4			1	3	3	3	27	1
Unknown					1	1	4	1
	36	95	149	230	247	184	201	140

Table 1 indicates the retention history of the participants. While most students, as to be expected, were retained only twice, there were some who had been retained either three or four times. In looking at the number of participants at each grade level, one sees that the largest number of participants are from the middle grades; 4, 5, 6, and 7 (see Table 2).

Table 2

Number of Participants and the Average
Time in Reading and Mathematics by Grade Level

Current Grade	1	2	3	4	5	6	7	8	UR	Total
N =	36	95	148	225	254	185	200	137	12	1292
Average Time in Reading	332	341	355	392	404	365	370	396	-	377
Average Time in Math	306	461	490	501	444	438	378	434	-	449

Participants in the program were also eligible to receive compensatory services if their standardized test scores fell below the state minimum level of proficiency. Two hundred and eighty students in the program received remediation in reading only; 150 in mathematics only; and 680 in both reading and mathematics.

Curriculum

The curriculum of the developmental component of the program focussed on reading, language arts, writing, and mathematics, with the other content areas, for example social studies, science etc., being taught through this core curriculum. In addition to this, the mandated courses as stipulated by the New Jersey Administrative Code were taught. These included:

a. The study of community civics, the geography, history, and civics of New Jersey; (N.J.S.A. 18A: 35-3) (grade 4).

b. Nature of alcoholic drinks and drugs on the human system; (N.J.S.A. 18A: 35-4).

c. A course in health, safety, and physical education of at least 2½ hours per week", (N.J.S.A. 18A: 35) (grade 5-8).

d. Instruction in accident and fire prevention; (N.J.S.A. 18A: 35-2).

e. Instruction in the Constitution of the United States; (N.J.S.A. 18A: 6-3) (grades 5-8).

f. Family life education; (N.J.A.C. 6: 29-7 et. seq.).

The curriculum was not as tightly structured as the curriculum of other programs in the district. For example, the "All Day Kindergarten Program", and in fact, these guidelines were established after the program had begun.

Curriculum Implementation: Instructional Theory into Practice

Madeline Hunter's Instructional Theory into Practice was used as the primary model for implementing the curriculum. It was assumed that if

teachers were made more effective in their pedagogies, this would have a beneficial impact on student achievement. The I.T.I.P. model incorporates four essential elements of instruction, these are: to Select the Learning at the Correct Level of Difficulty: to Teach to the Objective; to Monitor the Learning and Adjust the Teaching; and to Use the Principles of Learning.

The first element involves the introduction of new learning at an appropriate level of difficulty. The second element necessitates the development of a lesson set in which statements of learning objectives are clearly formulated, with corolary statements of observable behaviors and teachers actions directed at teaching the objectives. The third element equires the monitoring of the learning. Teachers are expected to check for understanding and to adjust the level of teaching either by reteaching or proceeding. The principles of learning is the final element. At this stage, learners are provided with the opportunity to practice their new learning in order to facilitate retention. Several strategies may be invoked - for example, modeling, feeling tone, vividness.

In addition to the I.T.I.P. model, teachers in the program were encouraged to use individualized and or small group instruction. The individual student improvement plan was also used to identify the skill deficiencies for participants.

Although the average number of minutes of instruction for the developmental component was not available for the report; the average time spent by participants in compensatory reading and mathematics was provided. Table 2 indicates that for most grade levels, participants received more instruction in compensatory math than in reading. On the average 449 minutes of compensatory instruction in mathematics occurred weekly, while the comparable time in reading was 377 minutes.

Staff Development

When the program was initially conceived, it was anticipated that teachers in participating schools would volunteer to be in the program. There was also the further expectation that the program would attract the best developmental as well as compensatory teachers. In only a few cases were these expectations realized. In most instances, principals were forced to place teachers into the program. (This occurred only in those schools which had a homogeneous setting; in the other schools where students remained in the regular developmental program of the school, there was no need to have designated twice-retained teachers.)

Because the I.T.I.P. model was supposed to be the primary distinctive feature of the program, a great deal of time was spent on training teachers and supervisors. A cadre of 14 people including central office supervisors were first trained in the techniques of I.T.I.P. at the Academy for the Advancement of Teaching and Management in New Jersey, during the summer of 1985. These supervisors inturn provided training to teachers during September and early October. There were 2 sessions of 5 days of intensive inservice on the I.T.I.P. method. A total of 122 teachers took part in the training sessions.

In the month of November, an overview of I.T.I.P. was given to principals, vice-principals and basic skills coordinators. A subsequent 5 day inservice was also held for those new teachers in the program as well as central office personnel who had not had prior training. Finally, in the Spring of 1986, a one day refresher session was held for all teachers who had received training.

Evaluation Overview

The evaluation of the program was based on two primary concerns. First, did the program have an impact on student achievement, as well as their social and personal adjustment; and second, what was the degree of the implementation of the I.T.I.P. model by teachers? Answers to these questions are provided in Chapters 2 and 3.

The data used in Chapter 3, was derived from a summary form filled in by the basic skills coordinator in each school. This form provided information on each student current grade level; the grades in which the student was previously retained, and the number of times; the type of setting in which the student received developmental instruction; the 1985 test scores for both reading and mathematics as well as the area in which compensatory services were given; and the actual number of minutes of basic skills instruction received each week in reading and mathematics. (See Appendix A).

Information on student social and personal adjustment was obtained from a needs assessment form which was used to rate participants twice; first, on entering the program and second at the end of the school year. Students received ratings in four areas: affective, social, psychomotor and health. These ratings were based on a scale from 1 to 5, with 1 representing very poor and 5 excellent.

A survey of teachers in the program was conducted during May, 1986, using a questionnaire instrument which was self-administered. The results from this survey are presented in Chapter 2. The questionnaire was distributed to 22 schools which is approximately 46 percent of the schools in the program. All the schools which had a homogeneous setting were included in the sample and a subset of schools with a heterogeneous setting was selected. Approximately 189 teachers responded to the questionnaire instrument. Fifty eight of these

were basic skills or compensatory teachers and 131 were developmental teachers. The questionnaire instrument incorporated items on the following topics:

a. Teachers' basic demographic characteristics - such as program assignment, number of years teaching, sex, grade level taught, academic qualifications.

b. Implementation of the I.T.I.P. model.

c. Academic orientation - eg expectation for student achievement, the degree of emphasis placed on academic achievement. student attendance.

d. The level of parental involvement.

e. Professional development - e.g., inservice training, and coaching assistance.

CHAPTER 2

The Correlates of Teacher Expectations and Teacher Practices in the Twice-Retained Program

Introduction

The various meta analysis on the effects of retention on the low achieving child have yielded inconclusive results (Jackson, 1975; Holmes and Matthews, 1984; Cooke and Stammer, 1985). There are however, certain consistent findings which have emerged. First, it would appear that neither grade retention nor social promotion are by themselves sufficient for solving the academic difficulties of the low achieving child. Second, little value either to the child or the school seems to accrue from recycling students through programs which prove ineffective for them the first time around. The clearest evidence of this being the phenomenon of multiple retention.

Resolution to these problems seem to come, as Cooke and Stammer (1983: 301) have pointed out from careful consideration of all the elements in the instructional model, such as the curriculum, the teaching, and the learning. Cognizant of this need, the Twice-Retained Program established in the district sought to come to terms with some of these factors. Particularly, it was felt, that helping these students to enjoy academic success would entail an altering of the ways in which teaching and learning occurred.

As was alluded to, and discussed in Chapter 1, the District relied extensively on the Model of Instructional Theory into practice as the vehicle for improving teachers' pedagogical styles and students' learning in the program (for a description of the model see Chapter 1 page 6). Intensive training in the techniques and philosophy of the I.T.I.P. Model was carried out during the Fall of the 1985-86 school year. The inservice training provided to teachers in the program was viewed as a way in which teachers' effectiveness could be bolstered by adding to their existing repertoire of

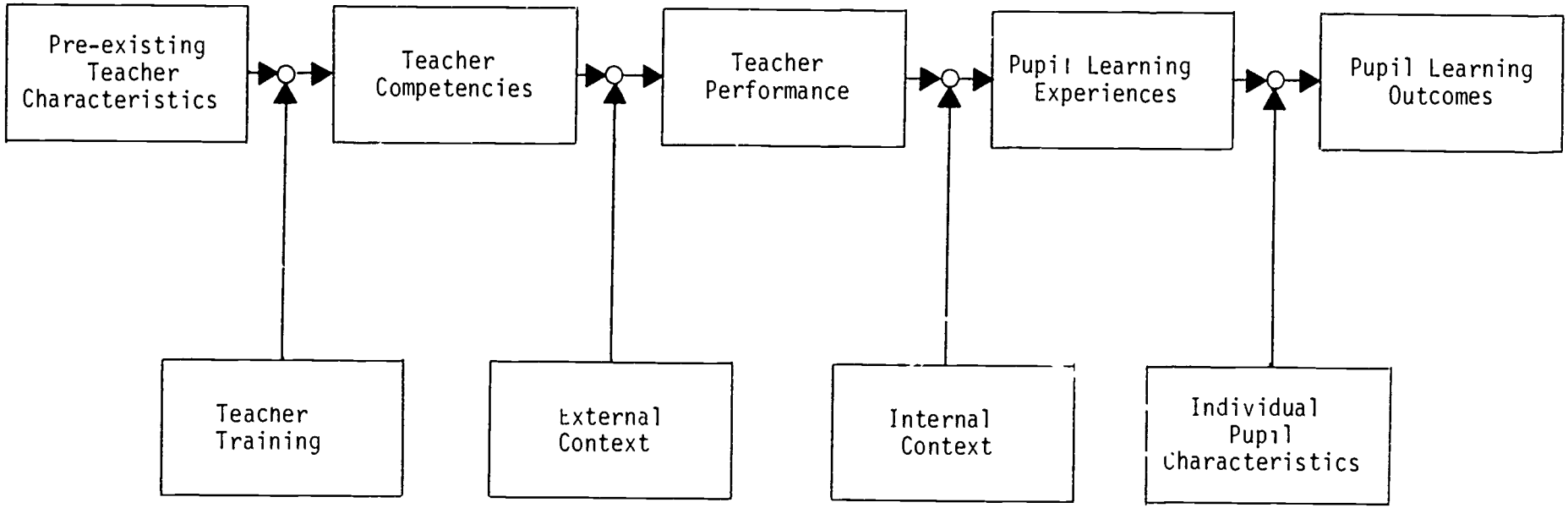
competencies, additional competencies based on proven effective instructional techniques. Naturally, given the central role of the I.T.I.P. Model to the program's structure, there is some interest in establishing the degree to which individual teachers implemented the model, and the factors which were associated with the use or nonusage of the model.

A concern with such factors is germane to understanding how teacher effectiveness may be enhanced or stymied. Medley (1982) has argued that the structure of teacher effectiveness may be schematically expressed as the sum of the relationship of nine variables: pre-existing teacher characteristics, teacher competencies, teacher performance, pupil learning experiences, pupil learning outcomes, teacher training, external context, internal context, and individual pupil characteristics.

Medley's schema provided the framework in which the degree to which teachers implemented the I.T.I.P. Model was examined. Several relationships were explored. First, what was the relationship between certain teacher characteristics such as teaching experiences, academic preparedness and sex and their degree of usage of the I.T.I.P. Model?

Second, what is the impact of such internal context variables as the number of twice retained students taught, the type of program setting and the level of student absenteeism in their class and their usage of the I.T.I.P. Model and expectations for students success? Finally, how does the external context variable of an overall stress in the school on achievement, impact on teacher expectations and their willingness to use the I.T.I.P. Model.

Figure 1. Structure of teacher effectiveness (Medley, 1982: 1899)



Statistical Design

Several statistical tools were used which allowed us to test the validity of the relationships implied above. The first set of preliminary analyses involved an examination of the zero order correlations among the variables. Second, a tabulation of the frequency of use of several of the techniques associated with the I.T.I.P. Model was done for the basic skills as well as developmental teachers. Third, a series of two-tailed T-test analyses were used in order to determine whether the differences between basic skills teachers and developmental teachers evident on several of the variables were statistically significant.

Fourth, a discriminant analysis procedure was used in order to establish the efficacy of the teacher characteristic variables as well as the internal and external context variables in distinguishing between teachers who were using the model extensively versus those who were not. At this stage of the analysis four groups of teachers were identified: (a) basic skill teachers who were using the I.T.I.P. Model extensively, (b) basic skill teachers who used the model only in a limited way; (c) developmental teachers who were using the I.T.I.P. Model extensively, and (c) developmental teachers who used the model only in a limited way. These groups were created on the basis of the mean for the total sample. Teachers at or above the mean were considered to be using the techniques extensively and conversely those below, were considered as being low in implementing the model.

Results

The zero order correlations expressing the gross relationships among the variables are presented in Table 3. Not all of the correlations are of substantive importance, hence only some of these correlations will be discussed.

Table 3 - Zero Order Correlations

Among Selected Variables

		X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	Teacher Expectations	1.00	-.24*	-.00	-.09	-.21*	.18*	-.08	-.26*	-.07	-.15	-.04
X2	Clarity of Instructional Objectives		1.00	.20*	.19*	.58*	.08	.21*	.12	.01	.07	.02
X3	Implementation of I.T.I.P.			1.00	.19*	.13	.03	.27*	.08	.19	-.02	.03
X4	Classroom Setting				1.00	.01	.24*	.83*	.01	.11	.14*	.14
X5	Stress on Achievement					1.00	.09	.03	.18*	.00	.03	.14
X6	Time Spent on Individualized Instruction						1.00	.32*	.03	.07	.09	.08
X7	Number of Retained Students Taught							1.00	-0.4	.14	.18*	.18*
X8	Student Attendance								1.00	.00	.04	.14
X9	Sex									1.00	.04	.02
X10	Academic Preparedness										1.00	.15*
X11	Number of Years Teaching											1.00

* P .05

Teacher Expectations for Student Success in the Program

Madan, Airasian and Kellaghan (1980), and Rosenshine (1976, 1979) have suggested that teachers who have high expectations for pupils tend to create environments which expect more learning from students which in turn promote greater learning. In a program such as this, teacher expectations is certainly important if the program is to attain any measurable success.

In order to arrive at an indication of the level of expectations which teachers held, they were asked what percentage of students in their class they expected to master the instructional objectives. Thirteen percent said 90% or more, 26 percent stated between 70-80%, 27% expected between 50-69% percent, 12 percent felt between 30-49 percent, while 23 percent expected less than 30 percent of the students in their class to succeed. It is obvious from these data that most teachers did not expect the program to significantly help the majority of students to attain academic success.

The pattern of intercorrelations between teacher expectations and several of the other variables in the table raised some interesting findings as to the factors which were likely to be associated with these expectations. Teacher expectations for the students to do well academically in the program were modestly but significantly correlated with their perception of the stress on achievement for students in their schools, their academic preparedness, how well they perceived that the instructional objectives of the program were clarified, students attendance in their classroom and the amount of time which they spent on individualized instruction. These expectations were not related to their use of the I.T.I.P. Model, or the program setting in which they taught.

In other words, those teachers who expected most of their students to do well in the program were likely to be those who felt that: academic achievement was stressed in their schools and the objectives of the program were made clear to them. They were also likely to be those teachers with greater academic preparedness, as well as those teachers who spent more time on individualized instruction.

Interestingly enough, while the program setting was not related to teacher expectations, it shared a modest but significant relationship to the perception of stress on achievement in the school. The correlations suggested that teachers who taught only twice retained students felt that great emphasis was placed on student achievement, and that the instructional objectives were greatly clarified , compared to those in a heterogeneous setting.

In summary therefore, teacher expectations for success in the program were more closely associated with the clarity with which instructional goals were articulated, and the academic climate of the school, than with any other factors.

The Developmental and Compensatory Components: Differences or Similarities?

When the means for several of the variables were calculated, there appeared to be some differences between teachers who were assigned to the developmental component versus those who were assigned to the compensatory component. Given these observations, there was an interest in establishing whether or not these differences were substantial enough for us to make some judgement on these two components of the program. To this end, a series of two tailed t-test analyses were performed on the means for five variables. These variables were (a) implementation of the I.T.I.P. Model, (b) expectation for student success, (c) perception of stress on achievement, (d) the degree

of individualized instruction used with the students in the program and (e) the level of parental involvement solicited.

As table 4 indicates there are only two areas in which these differences approximated statistical significance, and these were with respect to the stress on achievement, and the degree of individualized instruction used. In both instances, these differences were in favor of the compensatory component rather than the developmental. The compensatory teachers perceived a significantly greater emphasis on achievement than did the developmental teachers. In addition, they reported that instruction with the twice retained students occurred mostly on an individualized basis.

These findings are not entirely surprising for two reasons. First, in the aspect of teacher training it was evident that the compensatory teachers received greater assistance than did the developmental teachers. For example, at least seventy percent of the compensatory teachers in the program received in service training whereas only 23 percent of the developmental teachers reported that they received any additional teacher training related to the program. Further, the compensatory teachers indicated receiving more coaching from supervisory personnel and were more favorable in their assessments of the value of the coaching assistance than were the developmental teachers. The net effect of these differences was consequently, a higher degree of perception of a stress on achievement, and as will be discussed in the following section, a greater implementation of the I.T.I.P. Model among the basic skills teachers. In addition, although the means were not statistically significantly different, the compensatory teachers had slightly higher expectations for project participants than did the developmental teachers.

Second, we also found as noted earlier that inspite of the stress on individualized instruction in the program, significantly more compensatory

Table 4

T-Test Differences Between Baskc Skills Teachers
and Developmental Teachers

	$\bar{x}$	SD	N	T-value
I.T.I.P.				
Basic Skills	93.07	19.68	58	1.30
Developmental	89.05	19.60	131	
Expectation				
Basic Skills	2.982	1.213	56	0.57
Developmental	3.105	1.402	124	
Stress on Achievement				
Basic Skills	4.236	0.942	55	1.97*
Developmental	3.929	1.017	127	
Individualized Instruction				
Basic Skills	3.185	1.117	54	4.24**
Developmental	2.375	1.236	126	
Parental Involvement				
Basic Skills	3.00	1.00	47	0.41
Developmental	2.923	1.115	1.7	

*$p < .05$
**$p < .001$

teachers were engaged in this practice, than were developmental teachers. This pattern occurred primarily because individualized instruction has historically characterized the instructional focus of the compensatory program in the school district. Thus, the compensatory teachers did not, unlike the developmental teachers, have to change old habits.

Implementation of the I.T.I.P. Model: Some Factors Which Discriminate Between High Implementation and Low Implementation

The primary thrust of the staff development activities in the program was to make teachers more effective both in instruction and classroom management. In order to achieve this goal, Madeline Hunters' Instructional Theory Into Practice was selected as the training model for the program. As was intimated in the previous section, proportionately, more compensatory teachers were trained with the I.T.I.P. Model, than were developmental teachers, although there were no statistically significant differences between the compensatory and developmental teachers as a whole in their degree of implementation of the model.

However in this section of the chapter, an attempt is made to identify the instructional strategies which were most frequently used by the developmental as well as compensatory teachers, and the variables that distinguished those teachers who used the model extensively from those who did not

Table 5 rank orders the instructional techniques in terms of their frequency of use for each objective. Before discussing the data in the table, it is of interest to note, that the number of missing data varied inversely with the frequency of use. Those techniques which were least used by both sets of teachers had the highest number of missing data.

Table 5
Instructional Strategies in the I.T.I.P. Model and
Percent of Teachers Reporting Frequently Used

Instructional Strategies	Percentage of Compensatory Teachers Reporting Frequently Used	Percentage of Developmental Teachers Reporting Frequently Used
A) In order to select learning at the correct level of difficulty.		
• Diagnostic questioning	61%	46%
• Knowledge of prior learning	58%	53%
• Task Analysis	47%	45%
B) In order to teach the objective.		
• Ask relevant questions	73%	70%
• Design relevant learning activities	70%	69%
• Formulate instructional objectives	68%	64%
C) In order to monitor learning		
• Check for understanding	89%	85%
D) Activities used after monitoring of learning		
• Intensify practice on the same task	49%	52%
• Reteach the task	38%	44%
• Proceed with a new task	20%	22%
• Quit	29%	29%
E) In achieving focus		
• Rely on motivation	62%	66%
• Rely on anticipatory set	49%	33%
F) In increasing students' rate and degree of learning		
• Use active participation	77%	71%
• Use reinforcement	65%	64%
• Use closure	38%	32%
• Use transfer	33%	25%
G) In monitoring students' retention		
• Emphasize meaning	67%	61%
• Use practice/repetition	61%	66%
• Use modeling	55%	46%
• Use feeling tone	56%	37%
• Use vividness	45%	44%
• Use degree of original learning	35%	32%

In looking at the pattern of results in the table, it is evident that those techniques whose nomenclatures appeared as being unfamiliar to teachers were the least used by both groups. For example, anticipatory set, closure, transfer, vividness, feeling tone, etc. Conversely, strategies such as checking for student understanding, asking relevant questions, eliciting active participation etc. were used frequently by most teachers.

Instructively, with the exception of the use of diagnostic questions and feeling tone, there were no large differences between the two groups of teachers. Diagnostic questioning was used frequently by more compensatory teachers than developmental teachers. Co-joining this observation with the preceding pattern of results one sees that inspite of training, as was certainly the case with the compensatory teachers, teachers are selective in the strategies they used, preferring to rely on those techniques which they are most familiar with.

Discriminant Analysis Descriptive Findings

Table 6 presents subgroup means and standard deviations for the variables to be used in the discriminant analysis. Several differences between the groups are apparent. First, compensatory teachers with a high level of implementation of the I.T.I.P. Model had the highest mean on most of the variables. This group of teachers tended to be high in their perceptions of stress on achievement and in their perceptions of the clarity of instructional objectives; they spent more time on direct instruction than any of the other groups, and had more twice retained students in their classrooms.

Second, a comparison within each cluster of teachers e.g. compensatory teachers with high level of implementation versus those with low levels, and developmental teachers with high level of implementation versus developmental

Table 6

Means and Standard Deviations for Discriminant Variables: Analytic Subgroups Compared

Discriminant Variables	Analytic Subgroups							
	Group I Com.Teachers w/Low Imple.		Group II Com.Teachers w/High Imple.		Group III Dev.Teachers w/Low Imple.		Group IV Dev.Teachers w/High Imple.	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Stress on achievement	4.17	0.98	4.74	0.54	3.64	1.06	4.10	0.98
Clarity of instruction objectives	3.67	1.50	4.00	1.31	3.79	1.03	3.66	1.21
Individualized instruction	3.00	1.26	3.43	1.23	2.03	0.92	2.46	1.28
Parental involvement[1]	3.50	0.55	2.96	1.02	3.21	0.95	2.76	1.10
Expectation for students[1]	2.33	1.37	2.83	1.03	3.32	1.42	3.14	1.37
Academic preparedness	2.33	0.82	1.87	0.81	1.61	0.74	1.47	0.80
Sex	1.33	0.52	1.91	0.29	1.71	0.46	1.88	0.33
Time spent on direct instruction	6.50	1.22	6.78	0.51	5.86	1.60	6.56	0.74
Class size 2R students	9.91	6.21	12.50	8.06	2.41	1.60	6.16	6.18
Class grouping[2]	0.33	0.52	0.57	0.51	0.0	0.0	0.22	0.42

Note: [1]These variables are so scaled that the lower the value the more favorable the response.

[2]This variable was dummy coded with 1 = homogeneous setting and 0 = heterogeneous setting.

teachers with low levels, reveal that those teachers with high levels of implementation tend to outscore those with low implementations on most of the variables.

The group with the lowest scores on most of the discriminant variables were the developmental teachers with low implementation of the I.T.I.P. Model. This group of teachers had low scores on the perception of stress on achievement, clarity of instructional objectives, time spent on individualized instruction, and time spent on direct instruction. They also tended to teach proportionately fewer twice retained students than the other groups.

Results From the Discriminant Procedures

An examination of the discriminant function coefficients in Table 7 indicates that the variables do have significant discriminating ability. On the first function, the most significant variables were the number of twice retained students taught, time spent on direct instruction, time spent on individualized instruction and the perception of stress on achievement. The most important discriminating factors on the second function were sex, the level of parental involvement, the degree of academic preparedness, the program setting and expectation for student success.

The group centroid scores in Table 8 shows that the first function is most successful in separating the compensatory teachers with high implementation of the I.T.I.P. Model (1.34), compensatory teachers with low implementation of the I.T.I.P. Model (0.61) and developmental teachers with high implementation of the I.T.I.P. Model (-.10); from developmental teachers with low implementation of the I.T.I.P. Model (-1.01). This function explains sixty eight percent of the explained variation in the variables, has a lambda of (.46) and a canonical correlation of (.63). These statistics suggest that this function has a lot of discriminating information in it.

Table 7

Discriminant Analysis Using the Four Analytic Subgroups

Variables	Discriminant Functions	
	Function I	Function II
Stress on achievement	0.39	0.07
Clarity of instructional objectives	0.06	0.20
Individualized instruction	0.41	0.13
Parental involvement	0.21	-0.42
Expectation for students	0.01	0.26
Academic preparedness	0.01	-0.43
Sex	0.02	0.67
Time spent on direct instruction	0.32	0.24
Class size of 2R students	0.61	-0.29
Class groupings	0.06	0.24
Statistical Information		
Eigenvalue	0.65	0.25
Percent of variance	68.49	26.77
Final lambda	0.46	0.76
Canonical correlation	.63	.45
p	$<$0.00	$<$0.05

In making the information more readily interpretable we may note that the developmental teachers who are using the I.T.I.P. Model miniminally, because of the small numbers of twice retained students in their classrooms tend also to spend less time on various instructional practices with these students. For example they tend to spend less time giving these students individual instruction, they reported spending less time on direct instruction with the twice retained students, and felt that achievement for these students has not been a priority.

Group centroids for the second function suggest that this function is separating the compensatory teacher with low implementation of the I.T.I.P. Model (-1.77); from compensatory teachers with high implementation (-0.01), developmental teachers with low implementation (-0.32) and developmental teachers with high implementation (0.34). Although this function has less discriminating value than the first, it is nevertheless still important. It explains approximately 27 percent of the variance in the variables, has a lambda of (.76) and a canonical correlation of (.45).

The standardized discriminant coefficients reveal that the compensatory teachers with low implementation of the model tended to differ from the other groups in the following manner. They are more likely to be males, to have greater academic preparedness, to involve parents less into the activities of the program, yet have relatively higher expectations for student success than the other groups. One may speculate that this group of teachers may feel a greater sense of empowerment because of their academic preparedness and therefore while less likely to involve parents in the program, and to be low in the implementation of the model, nevertheless tend to hold high expectations for student success.

Table 8

Group Centroids and Classifications

	GROUPS				
	Com.Teachers w/Low Imple.	Com.Teachers w/High Imple.	Dev.Teachers w/Low Imple.	Dev.Teachers w/High Imple.	All Cases
	(Centroids)				
Function I	0.61	1.34	-1.01	-0.10	
Function II	1.77	-0.01	-0.32	0.34	
% of cases correctly classified	66.7	60.9	60.7	54.2	(57.76)

Not surprisingly, on both discriminant functions the developmental teachers who are high in their implementation of the I.T.I.P. Model tend to be close to the compensatory teachers who are also high in their implementation of the I.T.I.P. Model, suggesting that there is some consistency to the factors which distinguish teachers willingness to adopt various instructional strategies in the program regardless of the component in which they taught.

Finally, the two significant functions in the analyses were fairly accurate in the prediction of the group membership for all groups. In group one, 67 percent of the cases were correctly classified, in group 2, 61 percent, in group 3, 61 percent and in group 4, 54 percent. With 4 groups the a priori, probability for each group is 25 percent. We have consequently with all the groups been able to successfully double our ability to predict the factors that are likely to discriminate between teachers who are most likely to implement the I.T.I.P. Model versus those who are least likely to implement the model through using the information provided by the two functions.

CHAPTER 3

The Impact on Students' Achievement in Reading and Mathematics

Introduction

The principal objective of the Twice-Retained program is to help previously at-risk students to significantly improve their academic performance. Implicitly, the basic premise of such a tracking process is that students with a recent or even a distant experience of failure cannot recuperate or show progress within the regular classroom environment. The Twice-Retained program aims at creating for them more favorable circumstances.

Did the program work well overall? What aspect of it was truly effective? For which group of students did it yield the best results? These are some of the questions that the present chapter attempts to answer, through a series of statistical analyses.

The first analysis helps to determine the significance of the pre-post-test gains (if any) made by students at each grade level. Secondly, since the participating pupils were in a multiple-treatment environment, it is important to find out whether their progress is attributable to instructional intervention per se, or simply to the tracking process. In that regard, one would expect program impact to be related to program intensity or time: in other words, if instructional intervention is the effective factor, one would expect the students who received more program time on a weekly basis to show greater improvement than those students, of comparable academic background, who were assigned less program time. Thirdly, it is also desirable to see whether differences in instructional settings (for instance, homogeneous versus heterogeneous grouping of students) contributed to limit, or to facilitate the

gains in achievement. Finally, going beyond the average performance, one would want to know whether the program had any adverse effect on some subgroups of students. Of particular concern is the development of pupils who might have been assigned to the program for reasons other than recent academic failure.

In exploring each one of the preceding four issues, the evaluation considers reading as well as math achievement as possible outcomes.

1. Academic Growth

To measure academic growth, the Comprehensive Tests of Basic Skills (CTBS, 1981 edition) were administered to students in the Spring of 1985 and of 1986, as part of the regular district testing program. The data were analyzed according to a modified norm-referenced design (known as Model-A), in which the pretest scores, adjusted for the reliability of the instrument, were compared to the posttest performance.

a) Reading

The results in reading achievement are presented for each grade level in Table 3.1. As can be seen, the outcome was strongly positive in the first and second grades, with gains between 7 and 15 NCE points. However, the impact of the program was negligible in the third and the sixth grades, where students showed a small but not significant decline. At the remaining grade levels (fourth, fifth, seventh, and eighth), the loss was much more severe, ranging from 2 1/2 to 6 NCE points. This pattern is particularly disturbing since it is in contrast to the general district profile, in which the trend at those grade levels tends to be upward.

b) Math

The results in math achievement are presented for each grade level in Table 10. Just like in reading, the outcome was quite impressive in the first and second grades, where the participants averaged a gain of about 20 NCE points. At two of the remaining grade levels (three and six), the program's impact was more modest but no less significant. As for grades four and five no noticeable change was detected. Finally, at the seventh and eighth grades, an acute decline was again observed: students lost 2 to 5 NCE points. While these gains are very encouraging, one would note the large difference in standard deviations from pretest to posttest. This means that the observed progress is due to the exceptional performance of a few students rather than of the average participants.

Comparing the results on the two academic criteria, the overall picture that one can sketch out is that the program is valuable in the early grades, but it may have an adverse effect on the development of students at the upper grade levels. This finding is consistent with the recent literature on retention, which shows that the approach works best with younger students.

Table 9

Summary of Results in Reading

for Students in the Twice-Retained Program

Grade	N	Pretest Mean (SD)*	Posttest Mean (SD)*	Difference	Correlate t value	p value	Effect Size	Outcome
1	18/20	25.43 (10.58)	40.11 (17.78)	+14.68	3.22	.005	1.39	positive
2	61/65	26.67 (10.66)	34.23 (15.27)	+ 7.56	3.19	.002	.71	positive
3	92/100	32.86 (7.87)	32.81 (12.49)	- 0.05	-0.04	.970	.28	negiigible
4	149/166	35.03 (9.95)	32.24 (10.64)	- 2.79	-2.88	.005	-.69	negative
5	158/181	34.43 (6.22)	30.14 (14.67)	- 4.29	-3.82	.000	-.69	negative
6	130/142	31.21 (11.22)	30.92 (10.04)	- 0.29	-0.28	.782	-.00	negligible
7	104/115	32.72 (8.48)	30.14 (11.20)	- 2.58	-2.49	.015	-.30	negative
8	84/98	36.10 (9.12)	30.01 (13.70)	- 6.09	-4.26	.000	-.57	negative

*Scores are in NCE's

Table 10

Summary of Results in Math

for Students in the Twice-Retained Program

Grade	N	Pretest Mean (SD)*	Posttest Mean (SD)*	Difference	Correlate t value	p value	Effect Size	Outcome
1	19/20	28.92 (14.54)	51.31 (22.87)	+22.39	3.92	.002	1.54	positive
2	50/65	32.71 (8.32)	50.22 (21.71)	+17.51	5.49	.000	2.10	positive
3	73/100	39.32 (8.90)	44.45 (18.93)	+ 5.13	2.25	.028	.58	positive
4	120/166	42.57 (5.62)	44.60 (14.94)	+ 2.03	1.60	.112	.36	negligible
5	142/181	40.88 (6.18)	41.84 (18.57)	+ .96	.65	.516	.15	negligible
6	112/142	38.86 (7.22)	42.49 (13.85)	+ 3.63	2.94	.004	.50	positive
7	96/115	36.60 (9.72)	33.74 (13.40)	- 2.86	-2.53	.013	-.29	negative
8	76/98	39.67 (5.10)	35.09 (12.47)	-4.58	-3.46	.001	-.68	negative

*Scores are in NCE's

2. Amount of Instructional Time

As noted earlier, the participating students were in a multiple-treatment environment. An attempt, therefore, must be made to determine whether their relative success or failure at various grade levels is attributable to instructional intervention or simply to the tracking process. A tracking process, because it has the drawback of labeling students, may often impede performance, but at times, it has been known to provoke a "Hawthorne effect", resulting in artificial growth. That effect is then mistakenly equated with that of the educational intervention. One of the major aspects of any educational intervention is the amount of instructional time it provides to participants. It is a common and reasonable expectation that students who are afforded more program time will have a better performance than others, of comparable academic background, who are assigned less program time. By exploring such an issue, one can truly pinpoint the degree of effectiveness of a particular educational intervention. For the data under study, partial-correlations were calculated between the posttest scores and the weekly amount of time received by each student, controlling for previous achievement as well as retention history.

a) Reading

The results for reading skills are presented grade by grade in Table 11. As can be seen, the average amount of reading instruction time offered to students in the Twice-Retained program varies from 275 minutes to 315 minutes across the various grade levels. The variation within grade was greater than the variation between grades: indeed, the differences among students at the same grade can add up to as much as 120 minutes of instructional time. It is evident, however, that such wide differences were not a function of pre-achievement. The low correlation with the pretest indicates that the program

was not tailored to individual students' needs. Similarly, the low correlations with the posttest means that the amount of instructional time was not a determining factor in student academic growth. The only exceptions are to be found at the first and the sixth grade. But in grade 1, where the correlation is moderate and significant, it turns out to be negative, meaning that the higher performers had actually less of their time committed to the program.

b) Math

The results for mathematics are presented grade by grade in Table 12 . They pretty much replicate the pattern already discussed for the reading skills. The average amount of instructional time ranges from 284 minutes to 315 minutes across the grade levels. In two cases (grades 4 and 7), a signifi .it correlation was found between program time and previous achievement, indicating that a systematic effort may have been made to tailor the program to individual students needs. However, the critical relation between the program index and the posttest was never supported. Since that major aspect of the Twice-Retained program did not contribute to the outcomes, its possible effectiveness would depend upon some other, more marginal factors. It is therefore not surprising that, for the most part the academic objectives were not met.

Table 11

Correlations Between Amount of Weekly Instructional

Time and Student Achievement in Reading

		GRADE							
		1	2	3	4	5	6	7	8
Average Amount of Time (min. per week)		305.28	310.33	310.54	314.45	301.87	312.26	292.91	275.43
Standard Deviation		120.48	93.58	96.50	80.00	88.04	76.31	96.89	110.25
Zero-order Correlations	with pretest	-.269	.022	.106	.054	-.027	-.047	-.031	.129
	with posttest	-.502	.200	-.063	.095	.079	.152	.004	-.027
Partial Correlations Between Time & Posttest	Control for Pretest	-.487*	.199	-.090	.079	.091	.191*	.021	-.071
	Control for # of retentions	-.482*	.207	-.060	.085	.058	.150	-.029	-.034
	Control for both	-.460*	.207	-.87	.067	.072	.188*	-.015	-.074

*p $<$ .05

Table 12

Correlations Between Amount of Weekly Instructional

Time and Student Achievement in Math

		GRADE							
		1	2	3	4	5	6	7	8
Average Amount of Time (min. per week)		315.53	283.30	303.19	313.22	302.62	306.26	287.80	286.25
Standard Deviation		117.60	94.02	95.76	87.06	88.11	78.37	91.01	103.98
Zero-order Correlations	with pretest	.158	.010	.079	-.224*	-.062	-.100	-.273*	.153
	with posttest	-.348	.090	-.024	-.104	.020	.069	.147	-.106
Partial Correlations Between Time & Posttest	Control for Pretest	-.387	.089	-.038	-.014	-.002	.130	-.021	-.179
	Control for # of retentions	-.350	.086	-.022	-.107	.026	.075	.117	-.123
	Control for both	-.382	.086	-.037	-.020	.003	.131	-.039	-.184

*p $<$ .05

3. Instructional Settings

Given that the Twice-Retained program failed to meet its academic objectives at the majority of grade levels, it is important to determine whether some structural characteristics might be impeding the effort. One such characteristic is the method of grouping students for instruction. In some cases, most of the Twice-Retained students were pulled out to form a homogeneous unit of learning, while in others, they were left in their regular classes, alongside their more able classmates. The latter, heterogeneous grouping might operate quite differently than the homogeneous setting, and therefore contribute to different outcomes. To clarify that point, an analysis of covariance was carried out, comparing the posttest results of the two subgroups, while controlling for previous achievement and amount of instructional time. The statistical data are summarized by grade in Table 13.

a) Reading

In grades 1, 2, and 7, the reading scores were higher for the students in a heterogeneous setting, though not significantly so. At the remaining grades, especially the fourth and the eighth, the advantage went to those participants homogeneously grouped. One will further remark that at the primary grades (1 and 2) the posttest means for both subgroups exceeded the pretest mean, which indicates an improvement for both. In grades 3 and 6, the subgroup means did not depart significantly from the pretest, while at the other grades, both posttest means failed to reach or surpass the average level of previous performance. In those cases, neither group benefited from the program.

b) Math

Turning to math, at all but one grade (the third), the scores were higher for the students in the homogeneous setting. The difference, however, is significant only in grades 4 and 5. At those two grades, furthermore, the homogeneous group clearly exceeded the average pretest performance while the other group did not. The overall gain obtained in grade 6 may similarly have been achieved only through the homogeneous setting. On the contrary, at the third grade, the heterogeneous group surpassed the pretest mean, while the homogeneous group did not. In the primary grades, both subgroups showed progress, while at the upper level (7th and 8th) neither one gave a satisfactory performance.

Overall, it may be concluded that the homogeneous setting is clearly more advantageous for math instruction.

Table 13

Posttest differences between groups of students in homogeneous and heterogeneous settings.

Subject	Grade	Grand Mean	Cov-Adj Deviat.		Subgroup Mean		Pretest Mean	p value*
			Homog.	Heterog.	Homog.	Heterog.		
Reading	1	40.11	-1.48	.74	38.68	40.85	25.43	.82
	2	34.23	-4.75	1.84	29.48	36.07	26.67	.13
	3	32.55	.51	- .14	33.06	32.41	32.86	.85
	4	32.18	3.45	-1.20	35.63	30.90	35.03	.01
	5	30.03	2.34	- .77	32.37	29.26	34.43	.24
	6	30.95	1.22	- .43	32.17	30.52	31.21	.38
	7	29.90	-1.46	.76	28.44	30.66	32.72	.33
	8	29.44	4.93	-1.70	34.37	27.74	36.10	.04
Math	1	51.32	2.92	-1.70	54.24	49.62	28.92	.70
	2	50.22	6.06	-1.52	56.28	48.70	32.71	.34
	3	43.94	-6.57	2.19	37.37	46.19	39.32	.13
	4	44.67	5.26	-1.54	49.93	43.13	42.57	.03
	5	41.81	8.99	-2.63	50.80	39.18	40.88	.00
	6	42.62	1.63	- .59	44.25	42.03	38.86	.41
	7	33.30	-1.18	.64	32.12	33.94	36.60	.50
	8	35.09	3.45	- .99	38.54	34.10	39.67	.17

*This p value is for the difference between subgroup means.

4. The selection or classification process

In addition to looking at the structural characteristics of the Twice-Retained program, it is useful to examine some of the functional factors or processes. Key among these processes is selection into the program. The research on aptitude-treatment interaction (Cronback & Snow 1977; Snow, 1978) has made it clear that a given educational intervention often holds promises only for some learners but not for others; so the selection of participants is as critical in a program design as are the teaching strategies. For the program under study, pupils were included once they had been retained two times or more in their school career. It did not matter whether the experience of academic failure was recent or distant. For instance, a seventh grader may have been assigned to the program, even though his retentions took place in grades 1 and 2. The classification then was not in response to his immediate academic needs. A preliminary analysis of the data revealed that, starting with the third grade, 32% to 58% of the participants were in a similar position. For the remainder of the population, the academic failure was more recent, so that the special assignment occurred at a grade level they were presently repeating. Can the program's impact be similar on these two groups of students with such differences in their academic history? To explore that question, an analysis of covariance was conducted, contrasting the posttest results of the two subgroups (students with a recent academic failure vs. those with a record of distant failures), while controlling for previous achievement and amount of instructional time. The statistical data are summarized by grade in Table 3.6.

a) Reading

In grades 3 through 5, the reading scores were significantly lower for the students with a distant experience of academic failure. The latter may be responsible for the program not meeting its objective at the third and the

Table 14

Posttest differences between students whose retention is recent and those whose retention is distant.

Subject	Grade	Grand Mean	Cov-Adj Deviat.		Subgroup Mean		Pretest	
			Distant	Recent	Distant	Recent	Mean	p value*
Reading	1**	-	-	-	-	-	-	-
	2**	-	-	-	-	-	-	-
	3	32.82	-2.81	3.82	30.01	36.64	32.86	.010
	4	32.19	-4.33	3.88	27.96	36.07	35.03	.000
	5	30.11	-4.24	7.65	25.87	37.76	34.43	.000
	6	30.82	- .39	.59	30.43	31.41	31.21	.551
	7	30.01	-. 63	1.68	29.38	31.69	32.72	.305
	8	29.44	- .97	6.24	28.47	35.68	36.10	.085
Math	1	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-
	3	44.29	-7.40	8.27	36.89	52.56	39.32	.000
	4	44.38	-6.94	4.28	37.74	48.66	42.57	.000
	5	41.79	-6.58	9.42	35.21	51.21	40.88	.000
	6	42.56	-1.02	1.39	41.54	43.95	38.86	.314
	7	33.55	-1.96	3.86	31.59	37.41	36.60	.019
	8	35.09	- .25	21	34.84	36.30	39.67	.684

*This p value is for the difference between subgroup means.
**Close to 90% of students at this grade are recent retainees.

fifth grades, since their poor performance contributed so much to the overall posttest mean. At the upper grade levels (6-8), the same trend continues, although the observed differences between the two subgroups are not significant. In any case, since the means in either category hardly reached or exceeded the previous achievement level, it can be said that overall the program did not have a positive impact at those grades.

b) Math

On this criterion also, the students with a distant experience of failure fared more poorly than those with a recent academic problem. The observed differences are significant at all but two grade levels (6 and 8). In grade 6, however, both subgroups did fairly well, scoring above the pretest performance; at the eighth grade, both were marked by academic decline. In the intermediate grades (3, 4, and 5), the program benefited one category but not the other.

This pattern of results suggests that the classification into the Twice-Retained program can be helpful only if it closely follows retention, in other words, if it comes in response to some recent academic needs. Targeting students whose experience of academic failure is distant, and who have managed for a while to sustain their performance on their own, is likely to disturb rather than enhance their development.

CHAPTER 4

The Effect on Students' Personal and Social Adjustment

Introduction

The relationship between retention and the socio-affective adjustments of students is not without some complexity. The burgeoning research on this issue indicate several, at times contradictory patterns of effects. There are however, two general strands of findings. The first body of findings center on the effects of retention on these socio-psychological states. The second strand, focuses on the relationship of these states, as prior student characteristics on the benefits derived from retention.

Many of the studies conducted along the first vien, have shown that retention tends to have a deleterious effect on students' personal adjustment, self concept, and attitude toward school. Holmes and Matthews' (1984) meta analysis of the research indicates that following retention, the retained student tended to score significantly lower, about one-third of a standard deviation than promoted students on measures of social adjustment, emotional adjustment, and behavior.

Investigations of the second type, have unearthed several interesting relationships. For example, Bossing and Brien's review (1980) of the evidence revealed that students who were retained because of immaturity, tended to derive greater benefits from retention than those who were retained because of achievement factor. Reinherz and Griffin (1970) reported finding that children who were well adjusted emotionally, and who also had good peer relationships, did well in the retained year.

Given the importance therefore, of the relationship between these affective or noncognitive factors, and the academic effects of retention, the evaluation of the program sought to delimit for the school population at hand, any possible linkages between both sets of variables. To this end, several analytical strategies were pursued. First, for each grade level, an estimation of the gains in affective and socio-emotional adjustments was done on the basis of a Wilcoxon signed rank test. Second, a Mann-Whitney U test was employed in order to establish whether or not being in a homogeneous or heterogeneus setting was related to the growth in any of the two affective categories. Third, and finally, the relationship between academic growth in both reading and mathematics and students' personal and social adjustment was established through the calculation of several correlations.

Student's Personal and Social Adjustment Effects

The pattern of growth along the social and affective dimensions suggests that in the main, the evidenced changes were not significant. There are however some interesting trends which should be highlighted. First, a comparison of the changes in the affective and social dimensions for both reading and mathematics reveals that these changes were more significant along the affective dimension in reading than in any other area.

In reading, students in grades 3, 4, 5, and 6 received significantly higher ratings at the end of the year on the affective dimension than they did at the beginning. Curiously, at grade 8, in math, students affective dispositions were significantly worst at the end of the program than at the beginning (see Table 15).

This latter observation holds for the other three columns in the table. In fact, on the basis of the data, one may say that the effects on students'

Table 15

Demonstrated Growth in the Affective and Social Domains by Grade Level

Grade Level	Affective Growth in Reading	Affective Growth in Math	Social Growth in Reading	Social Growth in Math
1	.19	-.23	.65*	.50
2	.12	.05	.12	.10
3	.23*	.19	.12	.27*
4	.25*	.12	.03	.14
5	.35*	.11	.09	.14
6	.34*	.59*	.32*	.29
7	.15	.23	.10	.18
8	-.03	-.39*	.06	-.01

$p < .05$ based on Wilcoxon Test

personal and social adjustment were more deleterious at this grade level than at any of the other grades. While it is difficult to suggest definitively why this was so, one possible explanation pertains to the retention histories of these students. A number of students in the upper elementary grades were in the program even though their retentions occurred earlier in their schooling. As was found in Chapter 3, students whose academic failures were more recent, benefitted more from being in the program, than those whose failures were distant. It may, therefore, be that for the upper grade levels where this phenomenon is more pronounced, the effects of being in the program may be negative for these students personal and social adjustments, particularly if, as was alluded to in Chapter 3, these students have managed to sustain their performance on their own.

Is Classroom Setting Related to Affective Effects

The literature seems to indicate that retained children tend not to be accepted readily by their peers in the class groups (Johnson, Maricle and Mims, 1985). Morrison and Perry a reviewed study by Johnson et al, found that the wide disparity in age of overaged children from the median of the group, was a factor which limited opportunity for choice status. This finding could lead one to hypothesize that students in the program who were in a heterogeneous setting where the age-differential would be more apparent would show less growth in the affective and social spheres than those in a homogeneous setting.

On the other hand, the research on the effects of labeling suggest that the act of labeling oftentimes carried with it negative consequences for the self concepts of the "average" and "low" ability students (Adkinson, 1964;

Table 16

Differences in Personal and Social Adjustments
Between Homogeneous and Heterogeneous Groups

Mean Ranks	1	2	3	4	5	6	7	8
Reading Affect Ranking								
Homogeneous	6.00	30.75	35.29	47.69	51.45	46.80	32.61	25.75
Heterogeneous	5.38	23.14*	34.88	46.89	46.46	35.44*	32.39	23.40
Reading Social Adjustment Ranking								
Homogeneous	5.50	26.08	34.90	41.92	58.00	48.80	31.52	26.79
Heterogeneous	5.50	23.97	34.33	47.82	45.67	35.13*	32.53	23.04
Math Affect Ranking								
Homogeneous	3.75	23.70	29.05	33.04	61.56	41.33	27.75	9.83*
Heterogeneous	6.50	15.80*	26.66	38.45	41.39*	29.30*	24.67	20.77
Math Social Adjustment Ranking								
Homogeneous	5.50	18.20	28.61	27.00*	53.61	38.33	29.00	11.83*
Heterogeneous	6.11	16.79	26.17	39.74	42.32*	29.06	23.72	20.39

*$<$p.05 - based on z values

Borg, 1966; Byers, 1961; Kelly, 1975; Levenson, 1972). Certainly, one may suggest that the placing of students of the same ability grouping into homogeneous classroom constitute a form of tracking and labeling which may adversely affect these students self concepts, and consequently their personal and social adjustments.

The information in Table 16, affords us an opportunity in assessing the relative merits of both viewpoints. The trends in the size of the mean ranks would suggest that being in a regular classroom setting had a more positive impact on students' personal and social adjustment than being in a homogeneous setting - except at the 4th and eighth grades. (Note, the lower the mean rank the more positive the impact of the program).

At the second grade for example, the gains which students showed in their affective development were significantly higher among those students who were in a regular setting. A similar pattern also occurred at the fifth and sixth grade levels. However, at the sixth grade level, the differences were particularly marked. In all but one area, students in a regular classroom setting registered statistically significantly greater growth in the affective and social spheres than students in a homogeneous setting.

As intimated previously, the only two grade levels with deviations were the fourth and eight grade levels. Interestingly, too, these were the only two grade levels in reading where the homogeneously grouped students did significantly better than the hetrogeneous groups. Without more detailed investigation on the topic, it is difficult to identify the reasons for this phenomenon.

In summary, however, it would seem that the labeling process real or imagined, which accompanied being placed in a homogeneous classroom setting, adversely affected the personal and social growth of those students who were homogeneously grouped.

The Relationship Between Intellectual Maturation and Affective and Social Maturation

The preliminary introductory comments to this chapter noted that some researchers found that students who adjusted emotionally, and who had established good peer relationships did well in the retained year. This linkage between the cognitive and noncognitive spheres is one which has been postulated in the various models which seek to explain the process of learning (see, for example, Bloom, 1976). It is a relationship, however, which appears to be even more salient to the issue of retention because of the stigma sometimes attached to being retained.

How important, therefore, are these affective and social states to understanding achievement in the program was established through the exploration of two issues. First, we sought to determine whether or not there existed any significant relationship between prior affective and social maturity and academic growth. Second, we tried to discover whether affective and social maturity was linked significantly to academic maturity, the latter being measured by academic growth.

The results of these analyses proved interesting. First, students' prior stages of affective maturity were significantly correlated with their academic growth only at two grade levels, i.e., grades 3 and 5. The correlation at grade 1 was modestly high compared to the other correlations, but because of the small sample size were not statistically significant. However, it is of interest to juxtapose these correlations to those obtained at the fifth and third grades. At the latter grade levels, it was found that those students who were rated as being relatively more mature in their affective behaviors registered larger gains in reading (grade 3 $r = .24$) and in mathematics (grade 5 $r = .18$) than those with lower levels of maturation. At the first grade

level, however, students who were rated as being relatively immature in the affective and social domains made greater progress (affective r = - .32; social r = - .30) than their more mature peers. Some investigators have argued that maturity is oftentimes a contributory factor to the retention decision for kindergartners and first graders (Cooke and Stammer, 1985). Thus, it would appear that in providing these students with an opportunity to mature socially and affectively in the program, an enchancement of their intellectual development is facilitated.

The processes of affective and social maturation and intellectual maturation were significantly interrelated from the fifth grade onward. At the early primary grades, with the exception of the first grade, there were no meaningful correlations between both processes. However, at the fifth, sixth, seventh, and eight grades, affective and social maturation was closely related to academic growth. The most consistent relationship existed between social maturation, and intellectual maturation. With the exception of the sixth grade, students who were able to cement good relationships between themselves and fellow classmates showed greater academic growth. These findings underscore somewhat Reinherz and Griffin (1970) study which found that social maturation was related to how well students did in the retained year.

CHAPTER 5

Conclusions

Education decision-making is never an easy one, and often involves decision makers in a series of trade-offs. The complexity of solving the dilemma of whether to retain or socially promote a student is evidenced by the number of decision-making models in the literature. The District's decision to establish an alternative program for students with multiple retention histories seemed, however, rational in the light of what is known on the negligible benefits of having students go through an instructional program which has failed them several times. There are, however, a number of strictures which must be raised about the Twice Retained Program given the evaluation results.

The first relates to program planning and the establishment of the various program components essential to the success of a program of this nature. Although attempts were made to systematize the program throughout the District during the fall and early spring, this was not achieved. The clearest indication of this can be gleaned from the amount of time in reading and mathematics instruction which students received. The variations among schools for any grade level were too large to be random. In fact, the evaluation found that the differences among students at the same grade level could add up to as much as 120 minutes of instructional time. This indicates that the schools were probably establishing their own guidelines in respect to instructional time. There might have been mitigating circumstances, but these were not made known to the evaluation team.

The second pertains to the curriculum. The curriculum established for the Twice Retained Program compared to that established for the successful All-Day Kindergarten Program seemed weak. As Cooke and Stammer have noted, to

help these students to be more successful in school, one must seek successes that evolve naturally from the improvement of curriculum and teaching (Cooke and Stammer 1985: 307). The issue of generating a sound and thorough curriculum was one which arose during the various meetings held in the fall. It is an issue, however, which must be re-evaluated.

The third, concerns the implementation of the ITTP model. The evaluation found that porportionately more Basic Skills teachers were using the model extensively as compared to developmental teachers. It was, however, noted that more of the former group of teachers received training. Nevertheless, the evaluation also found that those developmental teachers with only a few of these students in their classrooms spent less time working directly with them, and were less likely to adopt the I.T.T.P. model. In other words, these students were recycled through the old mode of instruction inspite of the emphasis which was placed on the improvement of teaching in the program. To a very large extent, this is not a surprising finding, since the evidence indicates that the low-achieving student tends to be overlooked instructionally by most teachers. Yet, this finding is significant for the program since most of the participants were in hetereogeneously grouped classrooms.

The fourth observation is on the impact of the program in the areas of reading and mathematics. The findings of the evaluation, though remarkably consistent with the findings in the literature, also points us to areas for improvement. First, the evaluation found that students benefitted more in the area of mathematics than in reading. Holmes and Matthews (1983) in their meta-analysis also concluded "that nonpromotion had a negative effect in the areas of language arts and reading". In the present evaluation this negative effect was observed in the third and sixth grades where students showed a small though insignificant decline in reading. At the fourth, fifth, seventh,

and eighth grade levels the loss was much more severe. It is probable, however, that if the curriculum were more tightly structured in the area of reading, some of this loss might have been partially obviated.

Second, the achievement data also indicated that students in the early grades made significant gains in reading, suggesting that the program worked best for the younger students perhaps, because as was discussed in Chapter 4, these student retentions are closely associated with their affective and social immaturity. Affording them an opportunity to mature affectively might have had positive consequences for their intellectual growth.

Third, the impact of classroom setting varied in reading, but was consistent in mathematics. In the latter Basic Skill area, students who were in a homogeneous setting clearly benefitted more from being in the program than students in a heterogeneous setting. In reading, however, only in grades 4 and 8 did the participants homogeneously grouped performed better than those in a regular classroom. On the other hand, in terms of their social and affective maturation students in a heterogeneous setting did better. It would seem, therefore, that some trade-off between intellectual versus social and affective maturation occurs depending on the setting.

The fifth and final observation is on who benefits the most from this program when retention histories are being examined. The data both on academic growth as well as the affective and social adjustments indicate that a program of this nature is perhaps most beneficial to that student who is currently in academic distress, based on the recency of his retention. Students whose retentions occurred five or six years prior to their current grade level did not benefit as much from being in the program. Thus, while

being in the program was an effective educational decision for some students, it clearly was not for all.

The preceeding observations should serve as the catalysts for which improvements may be initiated.

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APPENDIX A

DATA COLLECTION INSTRUMENTS

Basic Skills Twice Retained Program Participants
FY 1985-86

School_____ Date 2/19/86 Principal's Signature_____

Student's Name	Student's ID Number	Current Grade Level	Grades in Which Retained		Developmental Grouping (check only 1)		May 1985 MLP Percentile Rank		Program Status			Actual Number of Minutes of Basic Skills Instruction Per Week	
			1st time	2nd time	Homo.[a]	Hetero.[b]	Reading	Math	Reading	Math	Both	Reading	Math
			NOT APPLICABLE										

Note: For bilingual students please write PEP by their names, and indicate their PEP/ESL status in column titled Program Status. Also, indicate the standardized test on which their MLP is based in column titled May 1985 MLP

a-homogeneous grouping, b-heterogenous grouping

Newark Twice Retained Program
EVALUATION QUESTIONNAIRE
Developmental and Basic Skills Teachers

State guidelines mardate the evaluation of all basic skills programs. In order to complete the evaluation of the Twice Retained Program, we are conducting a survey of all teaches teaching twice retained students. Your cooperation is requested in responding objectively to each item as it relates to you.

Thank you.

DIVISION OF RESEARCH & EVALUATION
2 CEDAR STREET
Newark, New Jersey
07102

PART A

1. School_____

2. Which program are you assigned to teach?

   a) Basic Skills ☐ b) Developmental ☐

3. Which categories of students do you teach?

   a) only twice retained students ☐

   b) twice retained students and other basic skills students ☐

   c) twice retained students and other regular developmental students ☐

4. If you checked "C" to question 3, what percentage of students in your class are twice retained?

   a) less than 10% ☐ b) 10-19% ☐ c) 20-29% ☐

   d) 30-39% ☐ e) 40-49% ☐ f) 50% or over ☐

5. Please indicate the grade level(s) which you teach.

   1 ☐ 2 ☐ 3 ☐ 4 ☐

   5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐

6. How many twice retained students do you presently teach?

   a) in reading ☐ b) in math ☐

7. Check the box that applies to you.

a) BA degree ☐

b) MA degree ☐

c) MA + 30 credits ☐

d) Ph.D. ☐

8. How long have you been a teacher?

a) 0-3 years ☐ b) 4-7 years ☐ c) 8 years or more ☐

9. Sex: Male ☐ Female ☐

10. FOR BASIC SKILL TEACHERS ONLY - How long have you been assigned to the Basic Skills program?

a) 1 year ☐ b) 2-5 years ☐ c) 6 or more years ☐

PART B

THESE QUESTIONS PERTAIN ONLY TO THE TWICE RETAINED STUDENTS IN YOUR CLASS.

	Strongly Agree 5	4	3	2	Strongly Disagree 1
1. Great emphasis was placed on student achievement in the program throughout the school year.	☐	☐	☐	☐	☐
2. The instructional objectives of the program were clarified to me.	☐	☐	☐	☐	☐
3. A list of students in the program was prepared and revised accordingly throughout the school year.	☐	☐	☐	☐	☐
4. Skills taught to the twice retained student supplemented those taught in the regular developmental program.	☐	☐	☐	☐	☐
5. Instructional materials for the program were procured/developed on a timely basis to aid instruction.	☐	☐	☐	☐	☐
6. Skills to be taught to the twice retained students were sequenced in order of difficulty.	☐	☐	☐	☐	☐

PART C

INSTRUCTIONAL TECHNIQUE	FREQUENCY Never 1	Rarely 2	Occasionally 3	Fairly Often 4	Frequently 5
1. In order to select learning at the correct level of difficulty:					
a) you use knowledge of prior learning	☐	☐	☐	☐	☐
b) you use diagnostic questions	☐	☐	☐	☐	☐
c) you use task analysis	☐	☐	☐	☐	☐
2. In order to teach the objective:					
d) you formulate a relevant instructional objective	☐	☐	☐	☐	☐
e) you ask relevant questions	☐	☐	☐	☐	☐
f) you design relevant learning activities	☐	☐	☐	☐	☐
3. In order to monitor learning:					
, you check for understanding	☐	☐	☐	☐	☐
4. Based on the results of your student monitoring:					
h) you intensify practice on the same task	☐	☐	☐	☐	☐
i) you have to reteach the same task in a different way	☐	☐	☐	☐	☐
j) you are able to proceed with a new task	☐	☐	☐	☐	☐
k) you quit	☐	☐	☐	☐	☐

	1	2	3	4	5
5. In order to achieve focus:					
l) you use anticipatory set	☐	☐	☐	☐	☐
m) you use motivation	☐	☐	☐	☐	☐
6. In order to increase students' rate and degree of learning:					
n) you use closure	☐	☐	☐	☐	☐
o) you use reinforcement	☐	☐	☐	☐	☐
p) you use active participation	☐	☐	☐	☐	☐
q) you use transfer	☐	☐	☐	☐	☐
7. In order to monitor student's retention:					
r) you emphasize meaning	☐	☐	☐	☐	☐
s) you use modeling	☐	☐	☐	☐	☐
t) you use practice/repetition	☐	☐	☐	☐	☐
u) you use feeling tone	☐	☐	☐	☐	☐
v) you rely on the degree of original learning	☐	☐	☐	☐	☐
w) you use vividness	☐	☐	☐	☐	☐

PART D

1. What percentage of twice retained students in your class do you think will master the objectives?

90% or more	☐ 1
70-80%	☐ 2
50-69%	☐ 3
30-49%	☐ 4
less than 30%	☐ 5

2. What percentage of twice retained students in your class attend on a regular basis?

a) less than 60% ☐ b) 60-69% ☐ c) 70-79% ☐

d) 80-89% ☐ e) 90-100% ☐

3. Within your classroom, what percentage of the time do you use each of the following grouping practices?

	0-19%	20-39%	40-59%	60-79%	80-100%
a) small group instruction					
b) individual instruction					
c) entire class					

4. Please list the specific instructional materials available to you to provide instruction to twice retained students.

Program / Materials	Communication Skills	Edition	Computational Skills	Edition
Books				
Series				
Systems				
Basic Skills Arrays				
Other (Specify)				

5. Have you ever been in-serviced in the Madeline Hunter technique?

yes ☐ no ☐

6. How often are you coached by the following?

Source	At least once a week	Once every two weeks	Once a month	Once every two months	Less often
Principal					
Central Office Supervisor					

7. How valuable is the coaching assistance which you have received?

Rating / Source	Not Valuable	Relatively Valuable	Valuable	Extremely Valuable
Principals				
Supervisors				

8. What percentage of time do you devote to each of the following activities?

	0-10	11-20%	21-30%	31-40%	41-50%	51-60%	60%
a) direct instruction							
b) assisting administrative staff with evaluation, selection, distribution of reading material, and testing							
c) interpreting test results for staff, parents, or students							
d) assisting administrative staff in preparing records/reports							
e) manage out-of-class disturbances							

9. If you are a Basic Skills teacher, how often do you meet to coordinate instruction with the developmental teachers who are teaching twice retained students in your school?

a) once a week ☐ b) twice a month ☐

c) once a month ☐ d) once every cycle ☐

10. If you are a developmental teacher, how often do you meet to coordinate instruction with the Basic Skills teachers teaching twice retained students in your school?

a) once a week ☐ b) twice a month ☐

c) once a month ☐ d) once every cycle ☐

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11. How often do you indicate how parents can help children in the program?

a) daily ☐ b) weekly ☐

c) monthly ☐ d) once a cycle ☐

12. How do you assist and inform parents about their children?

a) conferences ☐ b) in-service ☐ c) training ☐

d) flyers or letters ☐ e) other (specify) ☐

QUESTION 13 IS TO BE ANSWERED BY BASIC SKILLS TEACHERS ONLY.

13. How many periods per day do you have the assistance of a teacher aide?

a) 0 ☐ b) 1 ☐ c) 2 ☐

d) 3 ☐ e) 4 ☐ f) 5 ☐