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AUTHOR Mangino, Evangelina; Ligon, Glynn
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ABSTRACT

This report presents the evaluation findings for the 1982 Austin Independent School District's State Compensatory Education Summer School Program. It contains a description of the program, information about the data collection procedures employed in the evaluation, and a discussion of the student outcomes achieved by the program. Achievement results indicate that seventh graders benefited from attending summer school. The benefit is higher when students are promoted to grade eight. A better assessment of the effect of summer school on eighth graders may be possible in the future if the District adopts a test that allows a continuous analysis of achievement gains from junior to senior high school. The combined effect of attending summer school and being promoted to the next grade on one hand, and not attending summer school and being retained seems to account for the significant difference in achievement gains between summer school and nonsummer school students. (Author)

STATE COMPENSATORY EDUCATION SUMMER SCHOOL PROGRAM: 1982

FINAL EVALUATION REPORT

June, 1983

OFFICE OF RESEARCH AND EVALUATION
AUSTIN INDEPENDENT SCHOOL DISTRICT

Evaluator:
Evangelina Mangino

Senior Evaluator:
Glynn Ligon, Ph.D.

Evaluation Assistant:
Charlotte Focht

Data Analyst:
Anna Beeson

Secretary:
Barbara Wiser

STATE COMPENSATORY EDUCATION SUMMER SCHOOL PROGRAM: 1982

FINAL EVALUATION REPORT

June, 1983

Approved:

Glynn Ligon, Ph.D.

Publication No. 82.58

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Interim Report ABSTRACT

Title: STATE COMPENSATORY EDUCATION SUMMER SCHOOL PROGRAM: 1982-83, Interim Evaluation Report

Contact Persons: Evangelina Mangino, Glynn Ligon

No. of Pages: 44

Summary:

This report presents the evaluation findings for the 1982 SCE Summer School Program. It contains a description of the program, information about the data collection procedures employed in the evaluation, and a discussion of the student outcomes achieved by the program.

Achievement results indicate that seventh graders benefited from attending summer school. The benefit is higher when students are promoted to grade 8. A better assessment of the effect of summer school on eighth graders may be possible in the future if the District adopts a test that allows a continuous analysis of achievement gains from junior to senior high school.

The combined effect of attending summer school and being promoted to the next grade on one hand, and not attending summer school and being retained seems to account for the significant difference in achievement gains between summer school and nonsummer school students.

Instrument Description: Iowa Tests of Basic Skills, 1978 Edition, Form 7

Brief description of the instrument:
The ITBS is a standardized multiple-choice achievement test battery. Level 5 was given to kindergarten students to measure skills in the areas of listening (spring only), language (fall and spring), and math (spring only). Levels 7 and 8 were given to grades 1 and 2, respectively, to measure skills in the areas of word analysis, vocabulary, reading comprehension, spelling, math concepts, math problems, and math computation. ITBS levels 9-14 were administered to grades 3-8 with the test level for students in grades 4-6 chosen on the basis of their previous achievement scores (with teacher review). Levels 9-14 include subtests in all the areas mentioned for levels 7 and 8, except for word analysis. In addition, levels 9-14 include subtests measuring capitalization, punctuation, usage, visual materials, and reference materials.

To whom was the instrument administered?
All elementary and junior high students, grades K-8. Special education students were exempted as per Board Policy 5127 and its supporting administrative regulation. Students of limited English proficiency (LEP) were not exempt, but could be excused after one test on which they could not function validly. Scores for students who were monolingual or dominant in a language other than English were not included in the school or District summaries.

How many times was the instrument administered?
Once to each student in grades 1-8, twice to students in kindergarten.

When was the instrument administered?
The dates for the junior high administration were February 16, 17, and 18, 1982, and February 15, 16, and 17, 1983. Tests were administered in the morning. Make-ups were administered the week after the regular testing.

Where was the instrument administered?
In each AISD elementary and junior high school, usually in the student's regular classroom.

Who administered the instrument?
Classroom teachers in the elementary schools. In the junior high schools, the counselor or principal administered the test over the public address system using taped directions provided by ORE. Teachers and counselors received written instructions from ORE, including a checklist of procedures and a script to follow in test administration.

What training did the administrators have?
Building Test Coordinators participated in planning sessions prior to the testing. Teacher training was the responsibility of the Building Test Coordinator. However, teacher inservice training was available from ORE upon request. Teachers and counselors received written instructions from ORE, including a checklist of procedures and a script to follow in test administration.

Was the instrument administered under standardized conditions?
Yes. Standardized instructions were distributed. ORE personnel monitored in a random selection of classrooms with results indicating that testing conditions were reasonably consistent across the District.

Were there problems with the instrument or the administration that might affect the validity of the data?
No known problems with the instrument. Problems in the administration are documented in the monitors' reports which are available at ORE.

Who developed the instrument?
The University of Iowa. The ITBS is published by the Riverside Publishing Company.

What reliability and validity data are available on the instrument?
The reliability of individual subtests and area totals as summarized by Kuder-Richardson Formula 20 coefficients, ranges from .75 to .97, across test levels. Coefficients for the total battery range from .94 to .99, across test levels. Equivalent-forms reliability coefficients, calculated for grades 3-8, range from .71 to .92, across subtests and area totals. The issues of content and construct validity are addressed in the publisher's preliminary technical summary, pp.13-15.

Are there norm data available for interpreting the results?
Norm data are available in the Teacher's Guide. The Teacher's Guide provides empirical norms (grade equivalent, percentile, stanine) for the fall and spring. Interpolated norms are available for midyear. National, large city, and school building norms are available.

Instrument Description: Sequential Tests of Educational Progress (STEP), Series II, Forms A & B

Brief description of the instrument:

The STEP is a standardized, multiple-choice achievement test battery. In 1982-83, AISD used a subset of the complete battery, omitting the Mechanics of Writing and Science tests. These tests will be given every other year, alternating with the English Expression and Social Studies tests. Tests given each year are Reading, Math Computation, and Math Basic Concepts.

To whom was the instrument administered?

All students in grades 9-12. Special education students were exempted as per Board Policy 5127 and its supporting administrative regulation. Students of limited English proficiency (LEP) were not exempt, but could be excused after one test on which they could not function validly.

How many times was the instrument administered?

Once to each student.

When was the instrument administered?

The STEP was administered over a two-day period--April 6 and 7. Tests were administered in the morning from about 8:30 until approximately noon each day. Make-ups were administered on two consecutive Saturdays, April 16 and 23.

Where was the instrument administered?

The STEP was administered at each AISD high school (including Robbins and Kealing). Make-ups were administered at Reagan High School.

Who administered the instrument?

Test instructions were given over the public address system at each school, either by the counselor or by a tape recording provided by ORE. Teachers acted as test proctors in each classroom. The make-up testing was administered and proctored by ORE personnel.

What training did the administrators have?

Teachers and counselors received written instructions from ORE, including a checklist of procedures and an exact script to follow in test administration. The ORE personnel who administered the make-ups were thoroughly trained in administering tests.

Was the instrument administered under standardized conditions?

Yes. Standardized instructions were distributed. ORE personnel monitored in a random selection of classrooms with results indicating that testing conditions were reasonably consistent across the District.

Were there problems with the instrument or the administration that might affect the validity of the data?

No known problems with the instrument. Problems in the administration are documented in the monitors' reports.

Who developed the instrument?

Educational Testing Service (ETS). The STEP is published by Addison-Wesley Publishing Company, Inc.

What reliability and validity data are available on the instrument?

The reliability of subtests in the alternate forms, A and B, ranges from .58 to .93, with parallel forms correlations. As summarized by Kuder-Richardson Formula 20 coefficients, the reliability of the subtests ranges from .83 to .94. The issues of content and construct validity are addressed in the publisher's technical report, pages 150-154.

Are there norm data available for interpreting the results?

Mean, median, percentile rank, percentile band, converted, and stanine scores are available for each subtest of the STEP.

STATE COMPENSATORY EDUCATION
SUMMER SCHOOL, 1982

Program Description

During the summer of 1982, a summer school program funded through SCE monies was held on the campus of Fulmore Junior High School. The program lasted six weeks, from June 7 through July 15. The purpose of the summer school program was to provide remedial instruction in the areas of math, reading, and writing to students who were recommended for retention in grades 7 and 8 the previous school year. The program would provide the retained students with the opportunity to earn the number of points required for promotion to the next grade. As in the summer school 1981, this year the program operated on a semester system basis and students had the opportunity to earn a maximum of three units of credit. Additional information about the program will be furnished in later sections of this report.

Purpose

This evaluation was conducted to determine whether or not the SCE Summer School Program had an impact on student achievement. The major questions of interest related to this objective were:

1. Who participated in the SCE Summer School Program?
2. What activities were conducted?
3. What student outcomes were achieved?

Answers to these and associated questions will be presented in the Results section of this report. The following section describes the data collection procedures employed in the evaluation.

Procedure

The SCE Evaluator interviewed the Summer School Coordinator to obtain a general description and information about the summer school program. The questions included in Information Needs were given to the Summer School Coordinator to answer as soon as the data were available. A memo with the answers submitted is presented in Attachment 1. A list of students recommended for retention at grades 7 and 8 was obtained from the Office of Secondary School Management. A summer school file was created merging the list of students recommended for retention and the list of students registered and attending summer school (file format presented in Attachment 2). The achievement data included in the file are the students'

scores on the ITBS administered to all students in the spring of 1982 and ITBS administered in the spring of 1983 to students currently in grades 7 and 8, and the STEP administered in the spring of 1983 to students currently enrolled in grade 9. For detailed information on the achievement tests used, see instrument descriptions on pages 2, 3, and 4 of this report and ORE Publications Number 81.74 and 82.29.

Results

WHO PARTICIPATED IN THE 1982 SCE SUMMER SCHOOL PROGRAM?

1. How many students were enrolled?

   Out of 685 students recommended for retention in 1982, 387 registered in the summer school program. The official student count taken the first full week of the program was 377, and the official count at the end of the program was 346 (55.3% of students recommended for retention).

2. Who constituted the summer school program staff?

   There were 21 teachers teaching exclusively reading, language arts, or mathematics, one special education teacher, one counselor intern, and a coordinator.

3. How were students selected?

   At the students' home school, recommendation was made based upon the point system in junior high school and principal recommendation. Registration and participation in summer school was optional to eligible students.

   Eligibility for summer school depended upon earning at least one point during the regular school year. If a student had not earned at least one point, there would be no opportunity for promotion through summer school because only a maximum of three points could be obtained and four points are required for promotion.

   Because of being optional, summer school participation depends on many factors that were not controlled for or accounted for in the results. It is important to point out, however, that in general the students who were retained and participated in summer school had significantly lower pretest (1982) scores in all areas than all other students recommended for retention. Students who were promoted after being recommended for retention had the highest pretest scores, regardless of whether they decided to participate in summer school or not (see Figure 4 in Results section of this report).

4. What was the ethnic distribution of students served?

Figure 1 gives the ethnic composition, by grade, of the students participating in the 1982 SCE Summer School Program.

ETHNICITY	GRADE 7 NUMBER	GRADE 7 PERCENTAGE	GRADE 8 NUMBER	GRADE 8 PERCENTAGE	TOTAL NUMBER	TOTAL PERCENTAGE
Black	61	37.2	49	26.9	110	31.8
Hispanic	62	37.8	71	39.0	133	38.4
Anglo	41	25.0	62	34.1	103	29.8
TOTAL	164	100.0	182	100.0	346	100.0

Figure 1. NUMBER AND PERCENTAGE OF STUDENTS IN EACH ETHNIC GROUP WHO FINISHED THE 1982 SCE SUMMER SCHOOL PROGRAM.

WHAT ACTIVITIES WERE CONDUCTED?

1. What subjects were taught?

Students enrolled in the 1982 SCE Summer School Program were given daily instructions in each of the three basic subject areas: reading, writing, and math.

2. What noninstructional activities were part of the SCE Summer School Program?

Transportation of students from locations throughout the city to the campus in which the program was implemented.

3. How much did the 1982 SCE Summer School Program cost?

Costs for the SCE Summer School Program are shown in Figure 2. Instructional cost per student (not including transportation) totaled $125.48 completed.

STATE COMPENSATORY EDUCATION
Junior High School Summer School

6100 PAYROLL COST		
21-6111.18-820	Coordinator	3,500
11-6111.18-820	Summer School Teachers (20)	30,045
11-6115.18-820	Staff Development Stipends	1,749
	Total Salaries	$35,294
21-6141.00-820	FICA	2,347
	TOTAL 6100	$37,641
6200 CONTRACTED SERVICES		
11-6285.18-820	Xeroxing and Printing	300
	TOTAL 6200	$300
6300 SUPPLIES AND MATERIALS		
11-6391.18-820	Materials	5,285
11-6399.18-820	Postage	190
	TOTAL 6300	$5,475
6400 OTHER OPERATING COSTS		
11-6413.18-820	Transportation for Students	6,586
	TOTAL 6400	$6,586
TOTAL JUNIOR HIGH SCHOOL SUMMER SCHOOL		$50,002

Figure 2. ACTUAL SUMMER SCHOOL EXPENDITURES CHARGED TO SCE (452) ACCOUNT.

WHAT STUDENT OUTCOMES WERE ACHIEVED?

1. What was the student attendance for summer school?

Overall attendance in summer school was 94.46% (.54% lower than the previous year). On the average, out of 28 days, seventh graders were absent 1.3 days and eighth graders were absent 1.8 days.

2. How many students completed the program?

Three hundred and forty-six students completed the program. This represents 89.4% of those enrolled.

3. How many students passed on to the next grade (8 or 9)?

Of the 346 students who attended and completed summer school, 317 got enough points to be promoted to the next grade. However, 320 were promoted to the next grade by the time ITBS was administered. One hundred and fifty-three students were promoted from grade 7 to 8 and 167 students were promoted from grade 8 to 9.

A summary of all the students recommended for retention, participation in summer, and promotion/retention by junior high campus is presented in Figure 3.

CAMPUS	Grade 7							Grade 8						
	Passed			Retained			Total R for R	Passed			Retained			Total R for R
	SS*	Non-SS*	Total	SS	Non-SS	Total		SS	Non-SS	Total	SS	Non-SS	Total	
Fulmore	9	1	10	4	6	10	20	5	2	7	0	8	8	15
Lamar	22	3	25	3	16	19	44	6	1	7	3	9	12	19
Burnet	9	3	12	1	5	6	18	19	6	25	5	4	9	34
O. Henry	9	1	10	0	5	5	15	9	2	11	2	12	14	25
Pearce	40	6	46	7	18	25	71	34	7	41	3	12	15	56
Porter	25	4	29	1	24	25	54	23	2	25	5	20	25	50
Martin	15	3	18	7	14	21	39	25	1	26	2	8	10	36
Morrison	0	0	0	0	4	4	4	1	0	1	0	0	0	1
Bedichek	21	5	26	4	20	24	50	32	7	39	2	14	16	55
Dobie	3	8	11	1	5	6	17	9	13	22	3	5	8	30
Robbins	0	1	1	0	3	3	4	4	6	10	0	8	8	18
TOTAL	153	35	188	28	120	148	336	167	47	214	25	100	125	339

*SS - Students attending summer school.
Non-SS - Students not attending summer school.
R for R - Recommended for retention.

Figure 3. NUMBER OF JUNIOR HIGH STUDENTS RECOMMENDED FOR RETENTION, PARTICIPATION IN SUMMER SCHOOL 1982, AND PROMOTION/RETENTION.

4. How did students perform on the ITBS given February 1983?

Data Analyses

Achievement gains for all student recommended for retention were analyzed. In order to determine the combined effect of attending summer school and promotion/retention, a four-group achievement analyses was performed for ITBS reading, math, language, and composite scores for all students who were recommended for retention in grade 7 and for students retained in grade 8 in 1982. These analyses are not possible for students recommended for retention at grade 8 who were promoted because these students do not have 1983 ITBS scores for the comparisons.

A comparison of gains realized by students who, although recommended for retention in grade 8, were promoted to grade 9 was performed. Multiple regressions were performed comparing promoted students who attended summer school and students who did not attend.

Caution

Because the number of students with valid scores, who were promoted without attending summer school is very low, these comparisons must be considered with caution.

It is important, when interpreting summer school results to keep in mind that summer school attendance is voluntary. This makes the students attending summer school a self-selected group. The motivation factors involved in making the decision of whether to go to summer school or not have not been considered in the analyses.

Interpreting Results

For the purpose of these analyses and the interpretation of the results, all students recommended for retention were divided into four groups as follows:

	Attended Summer School	Did Not Attend Summer School
Promoted	Group 1	Group 3
Retained	Group 2	Group 4

Results

How do achievement gains realized by students recommended for retention at grade 7 who attended summer school compare with achievement gains realized by students who did not attend summer school?

Figure 4 presents the average grade equivalent (G.E.) scores obtained by students recommended for retention in 1982. Examination of Figure 4 reveals that:

- Gains achieved by students promoted from grade 7 to grade 8 are higher than the gains achieved by students retained regardless of whether the students participated in summer school or not. Students promoted from grade 7 to grade 8 made gains of 3.5 months in composite scores, 4.1 months in math, 3.7 months in reading, and 4.5 months in language larger than the gains achieved by students retained at grade 7.

- Students attending summer school achieved on the average, higher gains than students not attending summer school regardless of being promoted or retained. Students attending summer school achieved gains of 2.6 months in composite scores, 2.4 months in math, 3.5 months in reading, and 4.5 months in language higher than students not attending summer school.

- An analysis of gains achieved by each group separately shows that Group 1 (summer school - promoted) had the highest gains in all tests and in composite scores. The second highest gains were achieved by Group 3 (no summer school - promoted) followed by Group 2 (summer school-retained). The lowest gains were achieved by Group 4 (no summer school-retained).

- On the average, students recommended for retention at grade 7 scored one year and four months below grade level in February 1982.

- Seventh-grade students who attended summer school made their largest gains in language, but the gains achieved in all three areas and composite scores represent almost a year's gain (.95 - .99 G.E. gains). The range of gains for students recommended for retention at grade 7 not attending summer school was from .52 in language to .72 in math.

How do achievement gains realized by students recommended for retention at grade 8 who attended summer school compare with achievement gains realized by students who did not attend summer school?

Achievement gains achieved by students recommended for retention at grade 8 were analyzed through two sets of regression analyses. One set included the students who were promoted to grade 9 and the other set was done on the gains achieved by students retained in grade 8.

A comparison between students promoted and retained was not done because the tests used in grade 8 (ITBS) and the tests used in grade 9 (STEP) are not directly comparable.

Retained Students

No significant effect of participating in summer school was shown through gains of composite or math scores. The reading and language scores of students attending summer school were different from students not attending summer school, but given the large difference in number of students in each group (10 and 104) and the interaction of the regression lines, it is not possible to determine the specific impact of summer school on retained eighth graders (Attachment 3 presents regression lines of groups that differed significantly).

Promoted Students

Significant differences in gains were found in math and language scores, but only in language was the difference clearly in favor of students attending summer school. In math again, the different number of students in each group, the large difference in pretest scores for each group, and the regression line interaction do not allow a definite conclusion about the effect of summer school on promoted students (see regression lines in Attachment 3).

Conclusions

It is clear that seventh graders benefited from attending summer school. The benefit is higher when students are promoted to grade 8. A better assessment of the effect of summer school on eighth graders may be possible in the future if the District adopts a test that allows a continuous analysis of achievement gains from junior to senior high school.

The combined effect of attending summer school and being promoted to the next grade on one hand, and not attending summer school and being retained seems to account for the significant difference in achievement gains between summer school and nonsummer school students.

The results of this evaluation must be considered along with the findings reported in Retention and Promotion 1982-83 Final Evaluation Report (ORE Publication 82.42), "Mother Got Tired of Taking Care of My Baby" A Study of Dropouts from AISD (ORE Publication 82.44), and Dropout Interviews: Summer 1982, Final Technical Report (ORE Publication 82.16).

ATTACHMENTS:

1. Summer School Information
2. File Layout

AUSTIN INDEPENDENT SCHOOL DISTRICT
AUSTIN, TEXAS

JULY 16, 1982

TO: JERRY RICHARD, MAUDE SIMS, AND ORE
FROM: LINDA D. CLARK
RE: SUMMER SCHOOL INFORMATION

THE FOLLOWING INFORMATION WAS REQUESTED BY ORE.

HOW MANY STUDENTS WERE ENROLLED?

387 registered

377 official count taken from the first full week of Summer School

346 official count on July 15, 1982

HOW MANY TEACHERS WERE THERE?

21 teachers

WHAT OTHER STAFF WERE THERE?

One Special Education Teacher

One Counselor Intern

HOW WERE THE STUDENTS SELECTED?

Students were selected by Home School Principals.
Selection was based upon the point system in the Junior High School and the Principal recommendation.

WHAT WAS THE ETHNICITY OF THE STUDENTS SERVED? (FROM FINAL OFFICIAL COUNT)

8th grade students

Male	125
Female	57
Black	49
Hispanic	71
Anglo	62

7th grade students

Male	122
Female	42

Black	61
Hispanic	62
Anglo	41

SEVENTH GRADE STUDENT = 164
EIGTH GRADE STUDENTS = 182

WHAT AREAS DID THE TEACHERS TEACH?

MATH
READING
WRITING

HOW MUCH DID THE 1982 SCE SUMMER SCHOOL PROGRAM COST?

***This information must be gathered from Finance.

WHAT WAS THE ATTENDANCE FOR SUMMER SCHOOL PROGRAM?

AVERAGE PERCENTAGES

SEVENTH GRADE	95.30%
EIGTH GRADE	93.61%
TOTAL AVG.	94.46%

HOW MANY STUDENTS COMPLETED THE PROGRAM?

346 Completed the program
29 Students failed to get points needed
317 Students were promoted to the next grade
167 Eight grade students promoted to the Ninth.
150 Seventh grade students promoted to the Eight.

HOW DID STUDENTS PERFORM ON THE ITBS, GIVEN IN FEBRUARY 1983?
*** This information must be gathered after February 1983.

82.58

FILE LAYOUT

Attachment 2

PAGE 1 OF 1

☐ LABELED ☐ UNLABELED

LABEL ID SS TAPE NO. ESCSUM82 BY: Anna Beeson

BLOCKSIZE 3840 CHARACTERS DATE CREATED: 3-28-83

RECORD SIZE 80 CHARACTERS SUG. SCRATCH DATE: 88

DENSITY 1600 BPI

SEQUENCE ID, NAME

DESCRIPTION 1982 Summer School - Students

REMARKS Recommended for Retainment

NO. OF COLS.	COLUMNS FROM	COLUMNS TO	DATA FORMAT	FIELD NAME	REMARKS
2	1	2	AN	Program	SS = Summer School
7	3	9	N	Student ID	
1	10	10	-	Blank	
15	11	25	AN	Last Name	
12	26	37	AN	First Name & I.	
3	38	40	N	School	
1	41	41	N	Summer School	1-Registered 0-Otherwise
2	42	43	N	Grade	
2	44	45	Blank		
1	46	46	N	Promotion	1-Promoted 0-Retained
1	47	47	N	Test Taken 1983	1-ITBS 2-STEP
3	48	50		1983 Composit	(Blank if STEP if grade 9)
1	51	51	Blank		
3	52	54		1983 Reading Total	(STEP Reading if grade 9)
1	55	55	Blank		
3	56	58		1983 Math Total	(STEP Math Computation)
1	59	59			
3	60	62		1983 Language Total	(STEP Eng. Expression if grade 9
1	63	63	N	Test Taken 1982	1-ITBS 2-STEP
3	64	66		1982 Composit	
1	67	67	Blank		
3	68	70		1982 Reading Total	
1	71	71	Blank		
3	72	74		1982 Math Total	
1	75	75	Blank		
3	76	78		1982 Language Total	
1	79	79	Blank		
1	80	80	Same as C41	Summer School	1-Registered 0-Otherwise

Regressional analyses on ITBS:

Students recommended for retention at grade 7: retained
promoted

Students recommended for retention at grade 8: retained

The following pages include the significance tests based on the regression analyses of achievement scores obtained on 1982 and 1983 ITBS. CALCF/TWO was used to calculate the F's and DF's for seven model comparisons from the number of cases and the residual sums of squares obtained in the regression analyses (for detail explanation of analyses, see Standard ORE Progress Testing - SORE SPOT (ORE Publication 81.01). Regression lines were plotted only for the models indicating a difference in regression slopes.

F VALUES FOR SPSS REGRESSION RESULTS--FOUR GROUP CASE

GRADE = 7
TEST = ITBS COMPOSITE
NUMBER OF CASES = 177

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 64.81299
SUM OF SQUARES, MODEL 5 = 69.67709
DF = 4, 165 F = 3.095739372616309

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 64.81299
SUM OF SQUARES, MODEL 2 = 66.2956
DF = 3,.165 F = 1.258135907632098

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 66.2956
SUM OF SQUARES, MODEL 3 = 67.73952
DF = 3, 168 F = 1.219681547493348

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 64.81299
SUM OF SQUARES, MODEL 3 = 67.73952
DF = 6, 165 F = 1.241719831163475

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 67.73952
SUM OF SQUARES, MODEL 4 = 73.38318
DF = 3, 171 F = 4.748906103851931

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

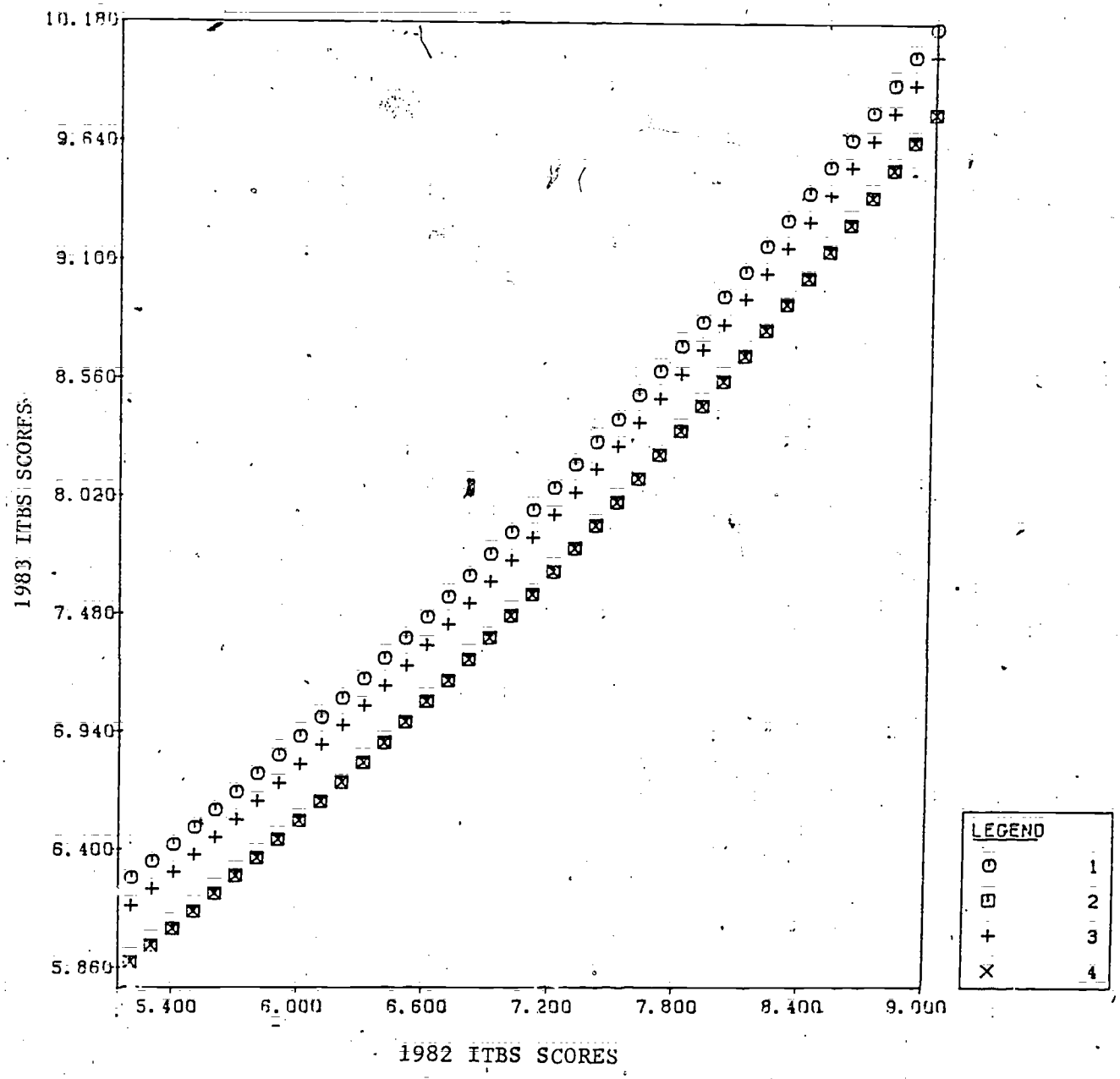
SUM OF SQUARES, MODEL 5 = 69.67709
SUM OF SQUARES, MODEL 6 = 70.61143
DF = 3, 169 F = .7554059256301591

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 70.61143
SUM OF SQUARES, MODEL 7 = 75.91306
DF = 3, 172 F = 3.308746992755517

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 7

-Composite Scores-



F VALUES FOR SPSS REGRESSION RESULTS—FOUR GROUP CASE

GRADE = 7
TEST = ITBS READING
NUMBER OF CASES = 216

MODEL 1 VS MODEL 5—CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 130.886
SUM OF SQUARES, MODEL 5 = 142.73155
DF = 4, 204 F = 4.615643002307351

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 130.886
SUM OF SQUARES, MODEL 2 = 135.72206
DF = 3, 204 F = 2.512507678437726

MODEL 2 VS MODEL 3—PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 135.72206
SUM OF SQUARES, MODEL 3 = 137.83882
DF = 3, 207 F = 1.076143701326077

MODEL 1 VS MODEL 3—PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 130.886
SUM OF SQUARES, MODEL 3 = 137.83882
DF = 6, 204 F = 1.806120440688844

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 137.83882
SUM OF SQUARES, MODEL 4 = 149.24797
DF = 3, 210 F = 5.794017244198696

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

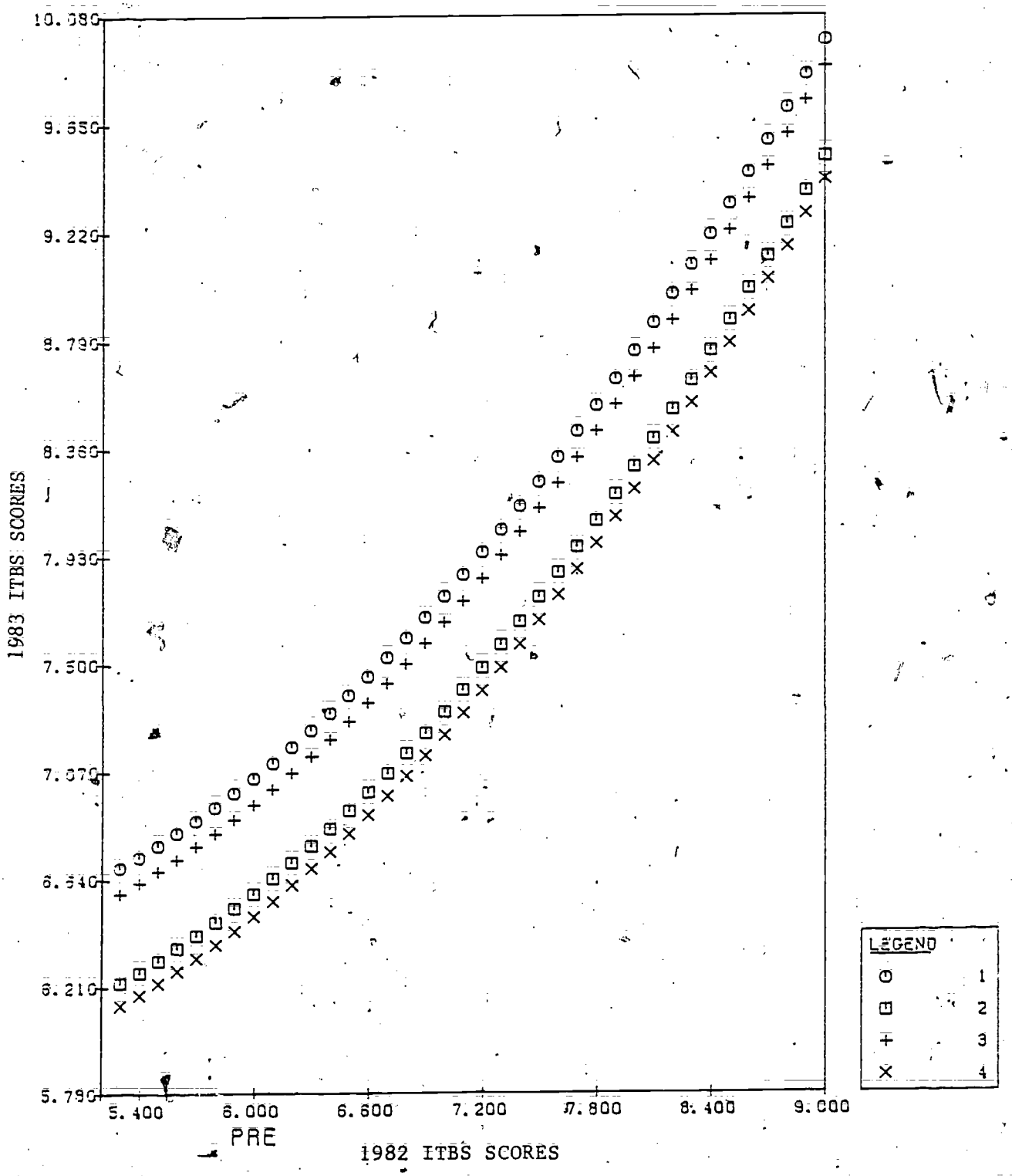
SUM OF SQUARES, MODEL 5 = 142.73155
SUM OF SQUARES, MODEL 6 = 145.9289
DF = 3, 208 F = 1.553145981623079

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 145.9289
SUM OF SQUARES, MODEL 7 = 155.48005
DF = 3, 211 F = 4.603366548138624

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 7

-Reading-



F VALUES FOR SPSS REGRESSION RESULTS--FOUR GROUP CASE

GRADE = 7
TEST = ITBS MATH
NUMBER OF CASES = 194

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 111.25984
SUM OF SQUARES, MODEL 5 = 124.33065

DF = 4, 182 F = 5.345341634501721

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 111.25984
SUM OF SQUARES, MODEL 2 = 112.91994

DF = 3, 182 F = .9052029315639258

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 112.91994
SUM OF SQUARES, MODEL 3 = 114.45393

DF = 3, 185 F = .8377267115090544

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 111.25984
SUM OF SQUARES, MODEL 3 = 114.45393

DF = 6, 182 F = .8708209239440443

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 114.45393
SUM OF SQUARES, MODEL 4 = 126.05944

DF = 3, 188 F = 6.354335116903954

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 124.33065
SUM OF SQUARES, MODEL 6 = 125.83482

DF = 3, 186 F = .7500848744858981

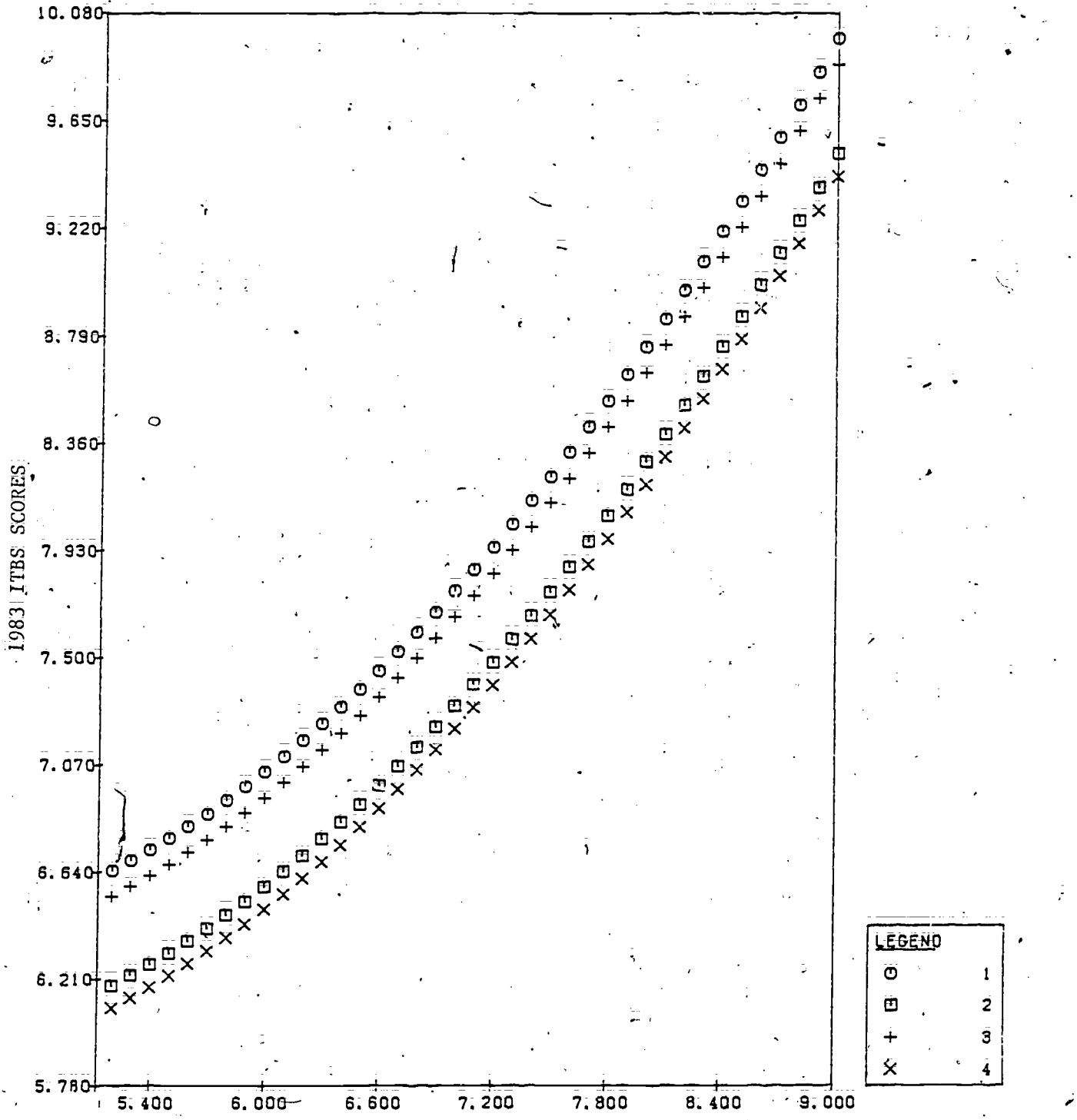
MODEL 5 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 125.83482
SUM OF SQUARES, MODEL 7 = 135.29992

DF = 3, 189 F = 4.738762291790986

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 7

-Math-



F VALUES FOR SPSS REGRESSION RESULTS--FOUR GROUP CASE

GRADE = 7
TEST = ITBS LANGUAGE
NUMBER OF CASES = 202

MODEL 1 VS MODEL 5—CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 157.12936
SUM OF SQUARES, MODEL 5 = 161.82424
DF = 4, 190 F = 1.419256083013383

MODEL 1 VS MODEL 2—COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 157.12936
SUM OF SQUARES, MODEL 2 = 161.01094
DF = 3, 190 F = 1.564528742432348

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 161.01094
SUM OF SQUARES, MODEL 3 = 167.11146
DF = 3, 193 F = 2.437516274774041

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 157.12936
SUM OF SQUARES, MODEL 3 = 167.11146
DF = 6, 190 F = 2.011[illegible]171821[illegible]02

MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 167.11146
SUM OF SQUARES, MODEL 4 = 179.40032
DF = 3, 196 F = 4.804[illegible]129[illegible]00879

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 161.82424
SUM OF SQUARES, MODEL 6 = 168.67673
DF = 3, 194 F = 2.738327006304?9

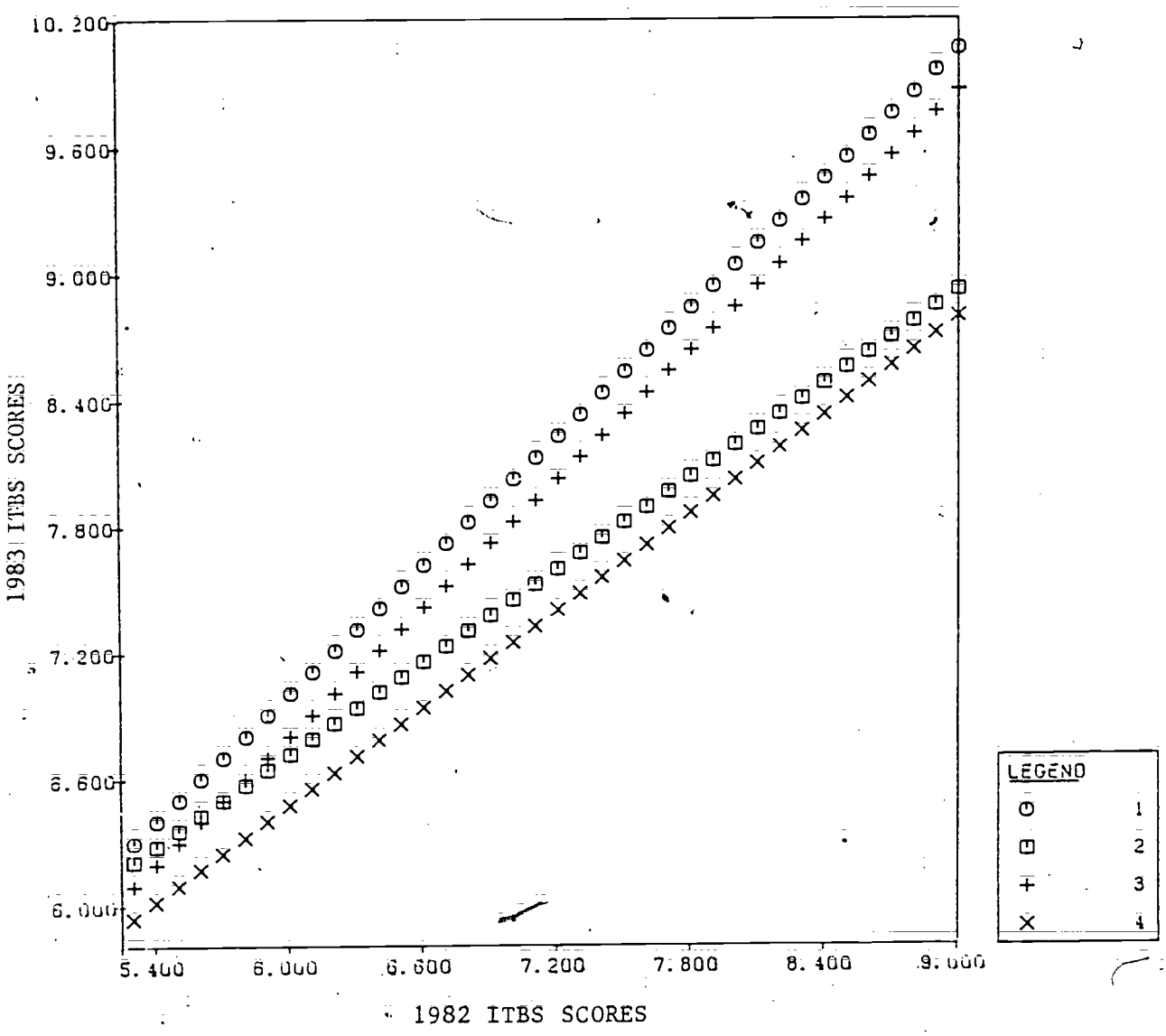
MODEL 6 VS MODEL 7—COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 168.67673
SUM OF SQUARES, MODEL 7 = 180.92127
DF = 3, 197 F = 4.727928149899515

Attachment 3
(continued, page 9 of 20)

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 7

-Language-



F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 8
TEST = ITBD RETAINED COMPOSITE
NUMBER OF CASES = 47

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 23.62127
SUM OF SQUARES, MODEL 5 = 24.46715

DF = 2, 41 F = .7341070145678028

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 23.62127
SUM OF SQUARES, MODEL 2 = 24.3989

DF = 1, 41 F = 1.349750881303164

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 24.3989
SUM OF SQUARES, MODEL 3 = 25.00587

DF = 1, 42 F = 1.044831529290255

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 23.62127
SUM OF SQUARES, MODEL 3 = 25.00587

DF = 2, 41 F = 1.201641571346502

MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 25.00587
SUM OF SQUARES, MODEL 4 = 25.0489

DF = 1, 43 F = .07399422615569847

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 24.46715
SUM OF SQUARES, MODEL 6 = 25.80828

DF = 1, 43 F = 2.356980277637567

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 25.80828
SUM OF SQUARES, MODEL 7 = 25.80897

DF = 1, 44 F = 1.176366654424184D-03

F VALUES FOR SPSS REGRESSION RESULTS—TWO GROUP CASE

GRADE = 8
TEST = ITBS RETAINED READING
NUMBER OF CASES = 52

MODEL 1 VS MODEL 5—CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 44.92834
SUM OF SQUARES, MODEL 5 = 51.63144

DF = 2, 46 F = 3.431493351412494

MODEL 1 VS MODEL 2—COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 44.92834
SUM OF SQUARES, MODEL 2 = 48.37217

DF = 1, 46 F = 3.525974474017958

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 48.37217
SUM OF SQUARES, MODEL 3 = 48.54676

DF = 1, 47 F = .1696374175481491

MODEL 1 VS MODEL 3—PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 44.92834
SUM OF SQUARES, MODEL 3 = 48.54676

DF = 2, 46 F = 1.852364454150766

MODEL3 VS MODEL 4—EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 48.54676
SUM OF SQUARES, MODEL 4 = 52.20913

DF = 1, 48 F = 3.710108769359684

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 51.63144
SUM OF SQUARES, MODEL 6 = 52.61307

DF = 1, 48 F = .9125881439680939

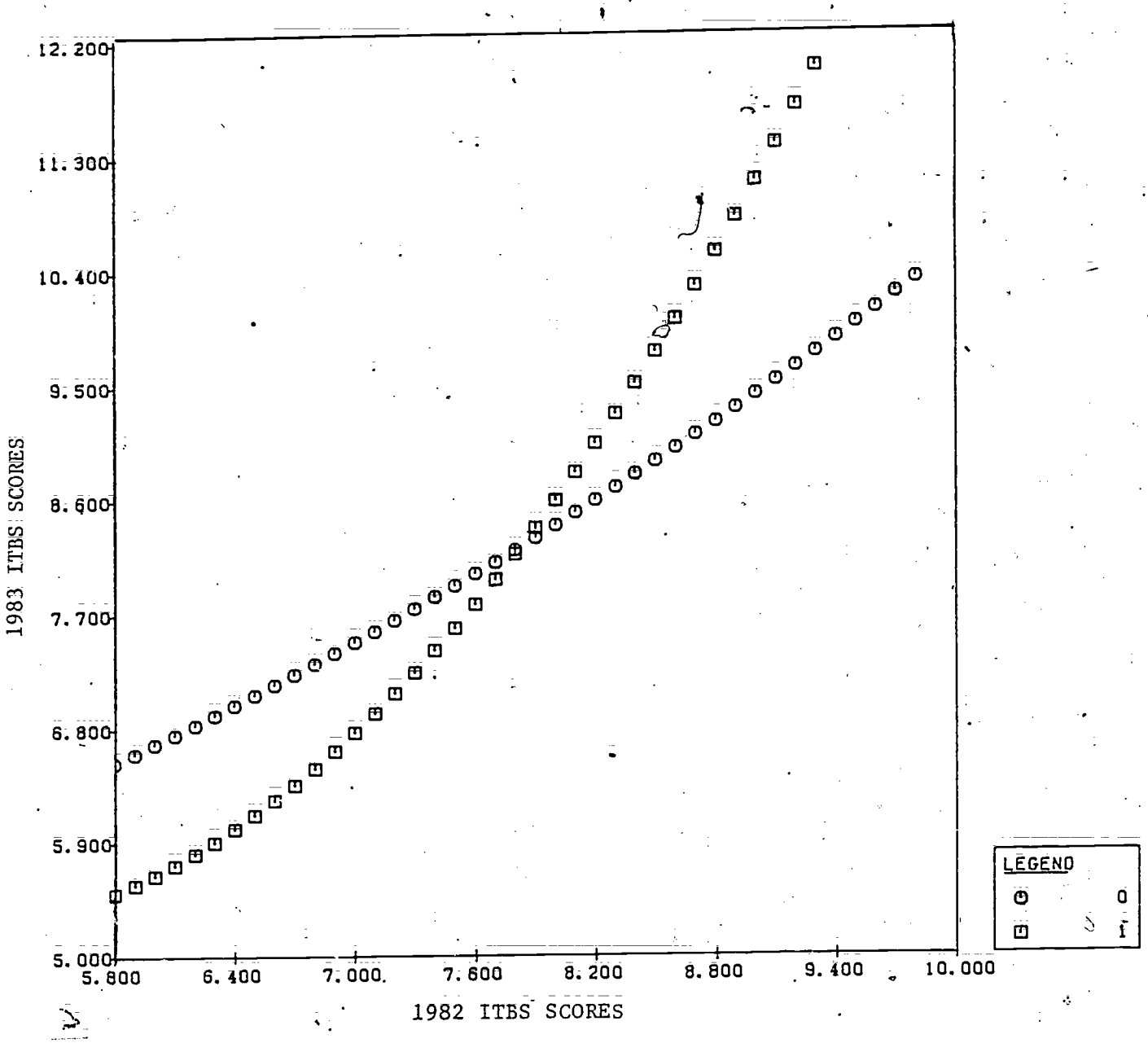
MODEL 6 VS MODEL 7—COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 52.61307
SUM OF SQUARES, MODEL 7 = 55.54944

DF = 1, 49 F = 2.73472218975247

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 8

R E T A L N E D
-Reading-



F VALUES FOR SPSS REGRESSION RESULTS—TWO GROUP CASE

GRADE = 8
TEST = ITBS RETAINED MATH
NUMBER OF CASES = 52

MODEL 1 VS MODEL 5—CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 420.81939
SUM OF SQUARES, MODEL 5 = 433.74975

DF = 2, 46 F = .7067123974491769

MODEL 1 VS MODEL 2—COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 420.81939
SUM OF SQUARES, MODEL 2 = 427.48401

DF = 1, 46 F = .7285132940285855

MODEL 2 VS MODEL 3—PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 427.48401
SUM OF SQUARES, MODEL 3 = 434.5975

DF = 1, 47 F = .7820971596107192

MODEL 1 VS MODEL 3—PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 420.81939
SUM OF SQUARES, MODEL 3 = 434.5975

DF = 2, 46 F = .7530464078663298

MODEL3 VS MODEL 4—EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 434.5975
SUM OF SQUARES, MODEL 4 = 438.04895

DF = 1, 48 F = .3812023769119688

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 433.74975
SUM OF SQUARES, MODEL 6 = 435.75605

DF = 1, 48 F = .2220229521746118

MODEL 6 VS MODEL 7—COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 435.75605
SUM OF SQUARES, MODEL 7 = 440.38949

DF = 1, 49 F = .5210221636624437

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 8
TEST = ITBS RETAINED LANGUAGE
NUMBER OF CASES = 50

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 30.48502
SUM OF SQUARES, MODEL 5 = 32.98841
DF = 2, 44 F = 1.806611247097755

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 30.48502
SUM OF SQUARES, MODEL 2 = 31.4675
DF = 1, 44 F = 1.41804466587196

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 31.4675
SUM OF SQUARES, MODEL 3 = 36.04242
DF = 1, 45 F = 6.542350043695878

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 30.48502
SUM OF SQUARES, MODEL 3 = 36.04242
DF = 2, 44 F = 4.010586182984299

MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 36.04242
SUM OF SQUARES, MODEL 4 = 36.71616
DF = 1, 46 F = .8598767785293002

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MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

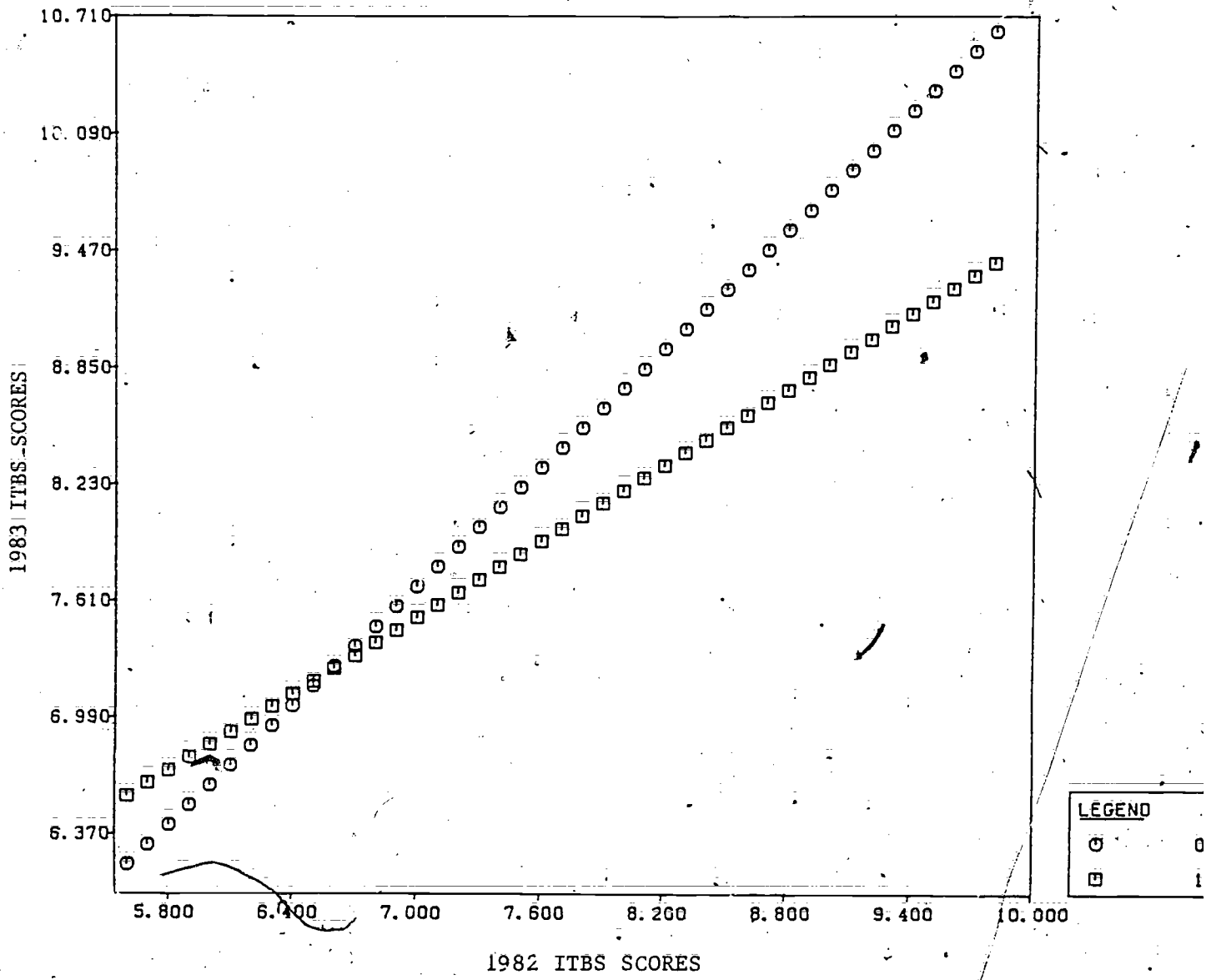
SUM OF SQUARES, MODEL 5 = 32.98841
SUM OF SQUARES, MODEL 6 = 36.31811
DF = 1, 46 F = 4.643030688657016

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 36.31811
SUM OF SQUARES, MODEL 7 = 36.83738
DF = 1, 47 F = .6719977994449609

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 8

R E T A I N E D
-Language-



F VALUES FOR SPSS REGRESSION RESULTS—TWO GROUP CASE

GRADE = 8
TEST = ITBS-STEP PROMOTED READING
NUMBER OF CASES = 115

MODEL 1 VS MODEL 5—CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 51.74795
SUM OF SQUARES, MODEL 5 = 52.40854

DF = 2, 109 F = .6957213764023502

MODEL 1 VS MODEL 2—COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 51.74795
SUM OF SQUARES, MODEL 2 = 51.76171

DF = 1, 109 F = .02898356360010489

MODEL 2 VS MODEL 3—PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 51.76171
SUM OF SQUARES, MODEL 3 = 52.04089

DF = 1, 110 F = .5932918367650513

MODEL 1 VS MODEL 3—PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 51.74795
SUM OF SQUARES, MODEL 3 = 52.04089

DF = 2, 109 F = .3085190814322111

MODEL3 VS MODEL 4—EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 52.04089
SUM OF SQUARES, MODEL 4 = 52.45205

DF = 1, 111 F = .8767788525907219

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 52.40854
SUM OF SQUARES, MODEL 6 = 53.05363

DF = 1, 111 F = 1.366284769619609

MODEL 6 VS MODEL 7—COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 53.05363
SUM OF SQUARES, MODEL 7 = 53.23456

DF = 1, 112 F = .381956145130878

F VALUES FOR SPSS REGRESSION RESULTS--TWO GROUP CASE

GRADE = 8
TEST = ITBS STEP PROMOTED MATH
NUMBER OF CASES = 111

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 128.2797
SUM OF SQUARES, MODEL 5 = 135.08183
DF = 2, 105 F = 2.78385297907619

MODEL 1 VS MODEL 2--COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 128.2797
SUM OF SQUARES, MODEL 2 = 129.14835
DF = 1, 105 F = .7110107834676901

MODEL 2 VS MODEL 3--PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 129.14835
SUM OF SQUARES, MODEL 3 = 133.13383
DF = 1, 106 F = 3.271128744579389

MODEL 1 VS MODEL 3--PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 128.2797
SUM OF SQUARES, MODEL 3 = 133.13383
DF = 2, 105 F = 1.986610703018481

MODEL 3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 133.13383
SUM OF SQUARES, MODEL 4 = 134.04949
DF = 1, 107 F = .7359182861335866

MODEL 5 VS MODEL 6--COMMON LINEAR SLOPES

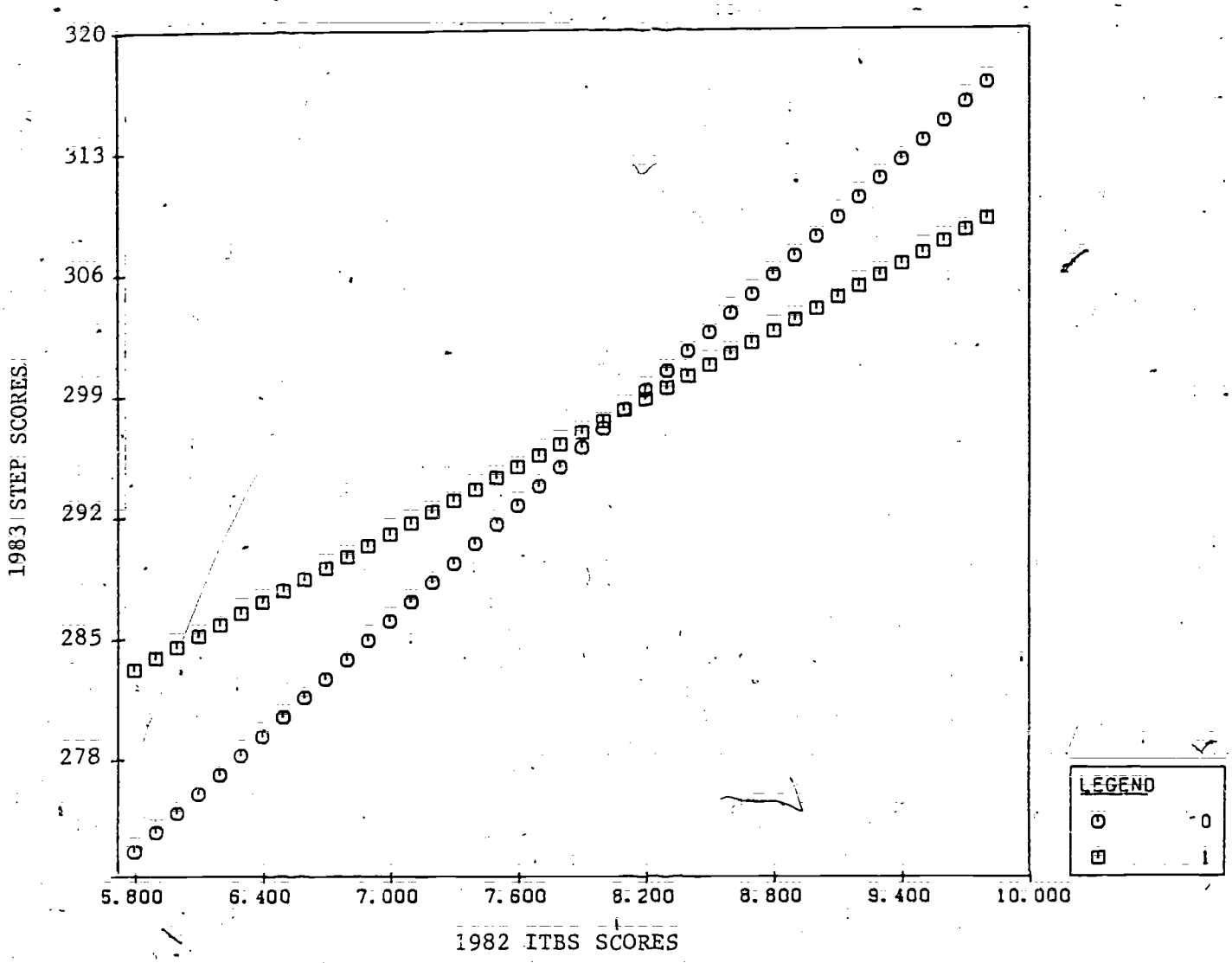
SUM OF SQUARES, MODEL 5 = 135.08183
SUM OF SQUARES, MODEL 6 = 140.11499
DF = 1, 107 F = 3.986828724485005

MODEL 6 VS MODEL 7--COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 140.11499
SUM OF SQUARES, MODEL 7 = 140.63402
DF = 1, 108 F = .4000659743828985

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 8

P R O M O T E D
-Math-



Attachment 3
(continued, page 19 of 20)

F VALUES FOR SPSS REGRESSION RESULTS—TWO GROUP CASE

GRADE = 8
TEST = ITBS STEP PROMOTED LANGUAGE
NUMBER OF CASES = 113

MODEL 1 VS MODEL 5--CURVILINEAR VS LINEAR

SUM OF SQUARES, MODEL 1 = 149.15198
SUM OF SQUARES, MODEL 5 = 151.56992
DF = 2, 107 F = .8673018621677049

MODEL 1 VS MODEL 2—COMMON QUADRATIC PORTION

SUM OF SQUARES, MODEL 1 = 149.15198
SUM OF SQUARES, MODEL 2 = 149.36266
DF = 1, 107 F = .151139528955633

MODEL 2 VS MODEL 3—PARALLEL CURVILINEAR SLOPES

SUM OF SQUARES, MODEL 2 = 149.36266
SUM OF SQUARES, MODEL 3 = 149.36461
DF = 1, 108 F = 1.409990957579925D-03

MODEL 1 VS MODEL 3—PARALLEL LINEAR SLOPES

SUM OF SQUARES, MODEL 1 = 149.15198
SUM OF SQUARES, MODEL 3 = 149.36461
DF = 2, 107 F = .07626921881962305

MODEL3 VS MODEL 4--EQUAL QUADRATIC INTERCEPTS

SUM OF SQUARES, MODEL 3 = 149.36461
SUM OF SQUARES, MODEL 4 = 150.48141
DF = 1, 109 F = .8149935918555283

MODEL 5 VS MODEL 6—COMMON LINEAR SLOPES

SUM OF SQUARES, MODEL 5 = 151.56992
SUM OF SQUARES, MODEL 6 = 151.58019
DF = 1, 109 F = 7.385568323843171D-03

MODEL 6 VS MODEL 7—COMMON LINEAR INTERCEPTS

SUM OF SQUARES, MODEL 6 = 151.58019
SUM OF SQUARES, MODEL 7 = 152.20238
DF = 1, 110 F = .4515161248973232

Attachment 3
(continued, page 20 of 20)

STUDENTS RECOMMENDED FOR RETENTION AT GRADE 8

P R O M O T E D
-Language-