In preparation for the mandatory administration of the New Jersey High School Proficiency Test (HSPT) that was to begin with ninth graders in 1986, a pilot program was conducted with ninth graders who had done poorly on the HSPT during its second, nonmandatory administration in 1985. Approximately 125 students were selected (25 in each of five school districts in the state) for a summer intervention and basic skill strengthening program, coupled with paid employment. The students in the six-week programs were trained in reading, mathematics, and writing, including essay and multiple-choice writing. After six weeks, the students who completed the program (about 80) were tested. The data indicate that the overall program made a positive difference for the students and should be continued. However, only reading and mathematics test scores were positive overall, while scores varied across programs and were actually negative in some parts for some programs. Therefore, the following recommendations were made for improving programs: (1) more time for schools to plan programs, (2) more attention to work placement of students, (3) more parental involvement, (4) more intensive training of teachers, (5) closer monitoring of the programs, and (6) scoring tests at the state level to facilitate quicker turnaround of the data. (KC)
At What Price Success?—Summer Basic Skills Remediation and Paid Employment

Claudia Merkel-Keller

New Jersey State Department of Education

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ASSESSED NEED:

The newly passed Carl D. Perkins Vocational Education Act (P.L. 98-524) speaks to the need to provide vocational education services and activities to traditionally underserved groups in order to meet their needs and hence to respond to the nation's existing and future work force demands. P.L. 98-524 seeks to enhance the participation of —

1. handicapped individuals;
2. disadvantaged individuals;
3. adults who are in need of training and retraining;
4. individuals who are single parents or homemakers;
5. individuals who participate in programs designed to eliminate sex bias and stereotyping in vocational education; and,
6. criminal offenders who are serving in a correctional institution.

Concurrent with efforts at the national level to target vocational services and funds to upgrade skill development for targeted groups, the New Jersey State Department of Education has also initiated a thrust to upgrade the basic skills performance of New Jersey students by requiring that students pass the High School Proficiency Test (HSPT) as one of the criteria for high school graduation.

Spring 1985 marks the second administration of the New Jersey HSPT. The HSPT is a more rigorous assessment of reading, mathematics and writing skills than is the Minimum Basic Skills (MBS) test, and requires students to apply skills in seeking solutions. Beginning with the ninth grade class of 1985-86, students must pass all three parts of the HSPT to satisfy one of the statewide high school graduation requirements.

The underpinnings of any student's ability to compete in the work force are demonstrated competencies in reading, writing and mathematics. Recognizing that core competencies are critical to the success of our students, one can respond to the critics who say that the test is just too hard, and that too many students will fail and drop out of school. Discouraged and robbed of their self-esteem, these students will then face an uncertain future. The fact is that we are already condemning them to an uncertain future. We are sending them out into the work force believing their diplomas prove they are ready for the challenges ahead. Too many of these students quickly discover they are not prepared.

Commissioner Cooperman has spoken to the issues described above on numerous occasions. In a presentation to the State Board of Education on July 11, 1984, the Commissioner outlined a report entitled "High Schools and the Changing Workplace" which was prepared by a panel of the National Academy of Sciences. The education and business leaders on the panel pointed out that the largest segment of the American labor force is made up of high school graduates who do not go on to a four-year college. Obviously, the high school graduate is a cornerstone of the nation's economy. The national panel found that these workers, in order to succeed, must be trained in what
are called "core competencies." In other words, students must be able to identify problems and weigh solutions; they must be able to read and interpret manuals and other written materials; they must be able to use mathematics to solve-on-the-job problems. And, of course, all graduates must have a command of the English language, and be able to write clearly and grammatically.

One cannot possibly know what demands the twenty-first century will bring. The "core competencies," however, will provide a solid foundation for graduates who will face a rapidly changing workplace during some 50 years in the work force. It used to be that young people didn't have to worry if they failed to do well in school. They could always drop out and make a living by the strength of their backs. Now, robots are replacing people on the assembly line. Even the military services -- once a popular choice for the non-college-bound -- need capable men and women who can solve problems and learn to handle complex electronic equipment.

Given the rationale provided above, the Division of Vocational Education proposed a Summer Work Study Vocational Program to respond to the need for strengthening basic skills triggered by the administration of the 1985 High School Proficiency Test (HSPT). The program served vocational students entering grade 10 who scored poorly on the 1985 HSPT. A total of 125 students were identified to participate in the program based on (1) guidelines prepared by the Division of General Academic Education, New Jersey State Department of Education and (2) criteria identified by the school district.

Five high need, urban districts took part in this pilot undertaking:

- New Brunswick,
- Vineland,
- Paterson,
- Bayonne,
- Passaic County Vocational Technical School

Each of the five districts identified 25 of its vocational students to participate in the program.

DESCRIPTION OF PROGRAM

The Summer Work Study Vocational Program was premised on the concept that intensive summer intervention and strengthening of the basic skills, coupled with paid employment, for the identified students would provide them with the skills necessary to pass the 1986 HSPT.

Goals of the program

- To remediate basic skill deficiencies in reading, writing and mathematics noted on the HSPT for identified students.
- To provide paid summer employment opportunities for identified students.
- 3 -

- To motivate students to stay in school by improving their self-esteem and by strengthening their basic skills proficiencies.
- To increase recognition for educational accomplishments to encourage students to excel.
- To recognize student improvement in different ways for different students, and in ways that are valued by the peer group.
- To use cooperative learning strategies in classrooms that encourage teamwork, which is desirable in the workplace.
- To encourage closer student-teacher relationships that can help deepen student knowledge.
- To develop competency profiles that appraise the student's skills.

**Objectives of the program**

- All students in the summer program will improve their basic skills performance as evidenced by their scores on the post test (1985 HSPT to be administered at the end of the summer program).
- All students in the summer program will increase their feelings of self-esteem and self-confidence as a result of their improved basic skills performance and their summer work experience. This information will be provided by guidance personnel.
- All students who have participated in the summer intervention program will pass the 1986 HSPT.

**MANAGEMENT PLAN:**

The six week summer intervention program was conducted from July 8, 1985 to August 16, 1985 in each of the 5 pilot sites identified. Described below is the management plan for the implementation of the summer program:

**TASK & TASK DESCRIPTION**

<table>
<thead>
<tr>
<th>TASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Develop summer program:</td>
</tr>
<tr>
<td>*vocational component which includes job placement opportunities for identified students</td>
</tr>
<tr>
<td>*guidance component—local guidance staff to provide ongoing support and assistance to students in the summer program</td>
</tr>
<tr>
<td>*curriculum component focusing on the skills and competencies arrayed on the HSPT in reading writing and mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division of Vocational Education 6/25/85</td>
</tr>
<tr>
<td>Division of Vocational Education 6/25/85</td>
</tr>
<tr>
<td>Division of in process General Academic to be ready Education 6/25/85</td>
</tr>
</tbody>
</table>
TASK & TASK DESCRIPTION

READING
a. literal comprehension/vocabulary
b. inferential comprehension
c. critical comprehension

WRITING
a. sentence structure
b. organization of ideas
c. editing
d. cohesive essay writing

MATHEMATICS
a. fractions
b. decimals
c. percents
d. number concepts
e. measurement and geometry
f. pre-algebra
g. problem solving

*training component to include activities that will:

a. make teachers aware of the specific skills in each of the HSPT clusters and the students' responses to them
b. increase teachers' skill in analyzing students' incorrect responses
c. provide teachers with the prior knowledge that they need to give to their students
d. provide teachers with sample activities which they can use to plan other activities for their students

2. Identify pilot sites based on the target audiences identified in the Carl D. Perkins Vocational Education Act (P.L.98-524) and based on the rationale provided in terms of high need students who need remediation in the basic skills. The following districts will participate in the program:
3. Develop job specifications for basic skills staff (teacher of mathematics, teacher of English and teacher of writing) to be hired by districts

4. Hire staff for summer program

5. Develop identification procedure for targeting students for the summer program

6. Select students for the program based on criteria

7. Conduct overview session for all project coordinators from the local district

8. Conduct training session for all project coordinators and basic skills instructors

9. Identify summer employment opportunities for students

10. Implement summer program

11. Provide 2 technical assistance sessions to local district basic skills staff
TASK & TASK DESCRIPTION

12. Evaluate program

13. Prepare first draft of evaluation report on results of program

14. Submit final evaluation report on results of the summer program

15. Expand, modify or discontinue summer program based on results of pilot evaluation study

BUDGET

The budget for each district was as follows:

A. Salary

   Reading Specialist
   (certification in english, english education or reading) = ($50.00/day)(30 days) = $1,500.00

   Mathematics Specialist
   (certification in mathematics) = ($50.00/day)(30 days) = $1,500.00

   Writing Specialist = ($50.00/day)(30 days) = $1,500.00

   Work Study Coordinator

B. Travel

   2 technical assistance sessions for identified staff = $200.00

C. Supplies

   Materials, manipulatives, consumable materials, diapositives, work sheets, etc. = $1,000.00

D. Other Direct Costs

   Student work study compensation = ($3.35/hr.)(3 hr./day)(30 days)(25 students) = $7,538.00

Total = $14,238.00

The total budget for all 5 districts: (5) ($14,238.00)

Grand Total = $71,190.00
IMPLEMENTATION:
A training seminar was provided to all of the participating staff in the pilot sites. Technical experts from the Division of General Academic Education provided in-service training for all of the instructors from the pilot sites in terms of:

(1) student selection criteria and identification procedures;

(2) identification procedures for skills which required remediation;

(3) concentration and organization of in-class instruction;

(4) use of instructional materials:
   - Improving Students Abilities to Read and Think: Teaching Strategies Series
   - Booklet A: Prereading Strategies
   - Booklet B: Reading (Reader-Text Interaction) Strategies
   - A Resource Guide for Reading Teachers of Junior High School Students
   - Guidelines for Interpreting the High School Proficiency Test Results
   - Measurement and Geometry
   - Improving Mathematical Problem-Solving Skills in the Middle Grades
   - Research Within Reach: Secondary School Mathematics-- A Research Guided Response to the Concerns of Educators
   - Understanding the Writing Process: Introducing Students to Composing
   - Identifying Curriculum Needs in Writing as a Result of the High School School Proficiency Test/Reports

(5) providing nonbiased counseling services for all students who were part of the program; and,

(6) identifying sex fair job placement opportunities for students in their summer work assignments.

Students who participated in the program received intensive remedial instruction in the morning consisting of 1 hour of mathematics instruction, 1 hour of reading instruction and 1 hour of writing instruction. The classes were split into three sections; hence, the youngsters benefited from small class sizes (in some cases as few as 5 students) and received more intensive teacher involvement, interaction and input. Following the morning instructional activities, students had lunch and then went to their supervised employment site for the remaining three hours of the day. Students received the minimum wage from their employment.

The following attendance policy was established for the program:

A student must attend 25 out of the 30 program days to be considered a participant in the program (i.e. counted in the evaluation of the program.).
A student must participate in the morning basic skills session of the program in order to participate and be paid for the afternoon work experience portion of the program.

If a student dropped out of the program during the first two weeks of the session, that student would have been replaced with another student who wished to participate in the program (the replacement student's test results were not included in the evaluation results since he/she would not have met the attendance criteria).

Districts were also encouraged to consider some type of sustained intervention (skill reinforcement) during the course of the 1985-86 academic year for those students who participated in the summer program.

In the recruitment of staff for the basic skills summer positions, job descriptions were prepared for (1) teacher of mathematics, (2) teacher of English, and (3) teacher of writing. These notices of vacancy were posted in accordance with each district's personnel policy, as well as affirmative action policy. Each school district, furthermore, assured that it was an equal opportunity employer, had an affirmative action program and would not discriminate against any person because of race, color, religion, national origin, ancestry, age, political affiliation, sex, armed forces liability, physical handicap, social or economic status.

**PILOT SITES AND STAFFING**

- **Bayonne School District**
  - Superintendent: Mr. James Murphy
  - Project Coordinator: Dr. Lois McGuire
  - Work Study Coordinator: Mr. Edward Paradine
  - Mathematics Instructor: Mr. Joseph Schaffner
  - Reading Instructor: Ms. Ava Finnerty
  - Writing Instructor: Ms. Joyce Nestle

- **Passaic County Vocational Technical School**
  - Superintendent: Mr. Carl Santaniello
  - Project Coordinator: Mr. Frank Zaccaria
  - Work Study Coordinator: Mr. Michael Riley
  - Mathematics Instructor: John Iurato
  - Reading Instructor: Ms. Bonnie Cassapula
  - Writing Instructor: Ms. June E. Morgan

- **Vineland School District**
  - Superintendent: Mr. Carl Simmons
  - Project Coordinator: Mr. Fred Rosi
  - Work Study Coordinator: Mr. Fred Rosi
  - Mathematics Instructor: Ms. Erica Fawn
  - English Instructor: Ms. Patricia Procaccino
  - Writing Instructor: Ms. Virginia Perry

- **New Brunswick School District**
  - Superintendent: Dr. Ronald Larkin
  - Project Coordinator: Ms. Ann Marie Current
  - Work Study Coordinator: Ms. Sarah Moody
  - Mathematics Instructor: Ms. Hermelita Tiangco
  - English Instructor: Mr. Andrew Fleming
  - Writing Instructor: Ms. Juanita Blowe
Paterson School District
Superintendent: Dr. Frank Napier
Project Coordinator: Mr. Mike Mugno
Work Study Coordinator: Mr. Joseph Pelliciotti
Mathematics Instructor: Ms. Carol Cammon
Reading Instructor: Mr. Peter Larro
Writing Instructor: Mr. Robert Conforth

STATE STAFFING

Trainer (Mathematics): Ms. Barbara Nuding
Division of General Academic Education

Trainer (Writing and Reading): Ms. Diane Bloom
Division of General Academic Education

Data Analysis: Mr. Stanley Rabinowitz
Division of General Academic Education

Co-Project Director: Mr. Gregory Buontempo
Division of Vocational Education

Co-Project Director: Dr. Claudia Merkel-Keller
Division of Vocational Education

STUDENT PARTICIPATION

Table 1 below presents the number of students who participated in the HSPT Summer Work Study Vocational Program.

<table>
<thead>
<tr>
<th></th>
<th>New Brunswick</th>
<th>Paterson</th>
<th>Bayonne</th>
<th>Passaic County Vocational</th>
<th>Vineland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students who were enrolled in the program</td>
<td>25</td>
<td>20</td>
<td>22</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>Number of students who dropped out of program</td>
<td>7</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Number of students replaced</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of students who finished the program but were not tested</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Number of students who were tested (met the attendance criteria)</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>
RESULTS:

The post testing of students occurred during the last week of the summer program. All students who had met the attendance criteria (25 out of 30 days) were tested. Some students due to absence took only one section or even one cluster within section of the HSPT; hence the number of students who participated in the post test ranged from 77 to 84.

District staff who taught during the summer program scored the multiple choice portion of the test, while the essay section of the writing test was scored by the same contractor who initially scored the HSPT essay exams for the state. Table II presents the percentages of students who improved in their performance (gain of one point or more) from pre to post test.

Table II

Percentage of Students Who Improved Their Basic Skills Performance from Pre to Post Test

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Reading</td>
<td>71.4%</td>
</tr>
<tr>
<td>Total Mathematics</td>
<td>78.2%</td>
</tr>
<tr>
<td>Total Writing</td>
<td>44.7%</td>
</tr>
<tr>
<td>Multiple Choice Writing</td>
<td>61.3%</td>
</tr>
<tr>
<td>Essay</td>
<td>19.4%</td>
</tr>
</tbody>
</table>

Presented in Table III are the raw score pre and post test means.

Table III

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>mean pre</th>
<th>N</th>
<th>mean post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Reading</td>
<td>80</td>
<td>55.75</td>
<td>77</td>
<td>66.06</td>
</tr>
<tr>
<td>Total Mathematics</td>
<td>80</td>
<td>44.41</td>
<td>78</td>
<td>54.47</td>
</tr>
<tr>
<td>Total Writing</td>
<td>80</td>
<td>73.15</td>
<td>78</td>
<td>71.83</td>
</tr>
<tr>
<td>Multiple Choice Writing</td>
<td>80</td>
<td>43.48</td>
<td>78</td>
<td>46.01</td>
</tr>
<tr>
<td>Essay</td>
<td>80</td>
<td>6.66</td>
<td>78</td>
<td>5.91</td>
</tr>
</tbody>
</table>

Correlated t-tests were computed for total reading, total mathematics, multiple choice writing, essay, and total writing (see Table IV). The results are as follows:

Reading (total): A statistically significant positive mean score difference was found from pre to post test, i.e. the program made a positive difference for some of the students enrolled.

Mathematics (total): A statistically significant positive mean score difference was found from pre to post test, i.e. the program made a positive difference for some of the students enrolled.
Writing (total): No statistically significant mean score differences were found from pre to post test on the total composite score; i.e. when viewed in its totality, the program did not make a difference for students. This result must be further examined by looking at the subcomponent scores which comprise the total writing score (essay and multiple choice writing).

Essay: A statistically significant negative mean score difference was found from pre to post test, i.e. some of the students did more poorly after this portion of the program than before being exposed to the program.

Multiple choice writing: A statistically significant mean score positive difference was found from pre to post test, i.e. this portion of the program made a positive difference for some of the students enrolled.

The above analyses deal with the overall effects of the program (treatment) across all schools. One might expect that schools will differ in their performance due to varied implementation of the program, student attitudes and other factors. Table V displays the correlated t-test results for each of the 5 schools in the summer program. Statistically significant findings are marked with an asterisk on the table. These tables show (1) the differential performance across components of the HSPT for each of the 5 schools, and (2) and that some schools are "doing better" than others after their students were exposed to the program. A statistically significant negative t value (marked with an *) indicates a drop in performance, while a statistically significant positive t value (marked with an *) indicates a gain in student performance.

A repeated measures Analysis of Variance (ANOVA) procedure, which is a more sensitive statistical technique, was conducted for each of the 5 program areas: reading, mathematics, writing (total), essay and multiple choice writing. The repeated measures ANOVA basically takes into account variation from school to school and allows us: (1) to say that there are differences in the implementation of the program across schools; (2) to say that there are no differences across schools (i.e. the program is working consistently in all sites); (3) to determine program effects by themselves; and, (4) to examine the program by school interaction.

Tables VI through X present the repeated measures ANOVAs. The data substantiate that fact that only in mathematics and in the writing multiple choice is the program working (producing a positive gain) across all of the 5 participating schools (statistically significant main effects). For reading, the essay and total writing, the analyses highlight the fact that the program (i.e. the intervention) is working differently across the 5 sites (statistically significant program by school interactions). These results can be readily verified by looking at the individual school results (correlated t-tests, Table V). School to school variations may be due to non-uniform implementation of the program or a number of other factors which cannot be clearly identified at this time.
Although attitudes were not directly assessed, students who participated in the summer program benefited in terms of attitude improvement, and strengthened feelings of self-worth and self-esteem as reported informally by their teachers. Most of the students were satisfied with their jobs and were happy about the money that they were earning.

Students who participated in this pilot summer program will be taking the HSPT in spring of 1986 even though they do not belong to the vanguard class for which the HSPT is a criterion for the high school diploma. It is hoped that the data from the spring 1986 administration of the HSPT will confirm the value of this type of summer intervention program.

CONCLUSIONS AND RECOMMENDATIONS:

The pilot data from the HSPT Summer Work Study Vocational Program indicate that the overall program made a positive difference for the students enrolled and should be continued, given program modifications suggested below, next summer for identified students. Students in this year's ninth grade class belong to the cohort for which the HSPT is one of the criterion for high school graduation. Given this preliminary data, it is felt this type of a summer remedial program, coupled with paid employment, would greatly benefit students who do not pass the HSPT in the spring of 1986.

Recommendations to strengthen program delivery for next summer include the following:

1. earlier notification of districts participating in the program thus allowing more time for identification of students to be recruited into the program;

2. greater attention to the placement of students in their work site (this would be automatically facilitated by having more planning time due to earlier site selection of participating schools and students);

3. more parental involvement in the summer program on the part of the parents of the participating students;

4. more broad based recruitment of teaching staff;

5. more intensive training of teaching staff;

6. closer monitoring of the implementation of the summer program to determine areas of instruction emphasized for remediation; and,

7. maintenance of scoring of the tests at the state level rather than the local level to facilitate a quicker turn-around of the data.
<table>
<thead>
<tr>
<th>CODE</th>
<th>SCHOOL DISTRICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bayonne</td>
</tr>
<tr>
<td>2</td>
<td>Passaic County Vocational Technical School</td>
</tr>
<tr>
<td>3</td>
<td>Vineland</td>
</tr>
<tr>
<td>4</td>
<td>New Brunswick</td>
</tr>
<tr>
<td>5</td>
<td>Paterson</td>
</tr>
</tbody>
</table>

CMK/js:1/13641
TABLE IV

CORRELATED t-TEST BY VARIABLE FOR OVERALL PROGRAM

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>N</th>
<th>MINIMUM VALUE</th>
<th>MAXIMUM VALUE</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>STD ERROR OF MEAN</th>
<th>T</th>
<th>P-VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>WMCD WRITED</td>
<td>80</td>
<td>-25.74000000</td>
<td>30.42000000</td>
<td>-2.93400000</td>
<td>10.33030366</td>
<td>1.34963966</td>
<td>2.24</td>
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<tr>
<td>ESSAYD MATHD READD</td>
<td>76</td>
<td>-31.00000000</td>
<td>31.00000000</td>
<td>-0.72368421</td>
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<td>-3.78</td>
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<td>WRITED</td>
<td>78</td>
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<td>0.0003</td>
</tr>
</tbody>
</table>

* significant p<.05

WMCD Multiple choice writing
WRITED Total writing
ESSAYD Essay
MATHD Total mathematics
READD Total reading
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>N</th>
<th>MINIMUM VALUE</th>
<th>MAXIMUM VALUE</th>
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<th>STANDARD DEVIATION</th>
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<th>P (2-TAIL)</th>
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<td>1.6242214</td>
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</table>

* Significant p < .05

WHCD: Multiple choice writing
WRITED: Total writing
ESSAYD: Essay
MATHD: Total mathematics
READD: Total reading
**Table VI**

**Reading**

SAS

Analysis of Variance Procedure

Univariate Tests of Hypotheses for Within Subject Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>ANOVA SS</th>
<th>Mean Square</th>
<th>p</th>
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<td>Read</td>
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<td>2237.46103966</td>
<td>15.93</td>
<td>0.0002 *</td>
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<tr>
<td>Read*Schooll</td>
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<td>1721.37980353</td>
<td>430.34495088</td>
<td>0.0218 **</td>
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*significant p < 0.05
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* significant p < 0.05
### TABLE VIII

**WRITING (TOTAL)**

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*significant p<.05*
TABLE IX

WRITING (ESSAY)

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*significant p < .05
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*Significant at p < .05*