Individualized developmental reading:
A comparison of teaching methods

by

Virginia Walker Graham

A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
MASTER OF ARTS

Major: English

Iowa State University
Ames, Iowa

1974
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>LITERATURE REVIEW</td>
<td>2</td>
</tr>
<tr>
<td>NOTES</td>
<td>12</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>15</td>
</tr>
<tr>
<td>MATERIALS AND METHODS</td>
<td>21</td>
</tr>
<tr>
<td>RESULTS AND DISCUSSION</td>
<td>44</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>50</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>53</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>57</td>
</tr>
<tr>
<td>APPENDIX A: FRY'S READABILITY GRAPH</td>
<td>58</td>
</tr>
<tr>
<td>APPENDIX B: SAMPLES OF ASSIGNMENT SHEETS</td>
<td>60</td>
</tr>
<tr>
<td>APPENDIX C: EXAMPLE OF VOCABULARY TESTS</td>
<td>66</td>
</tr>
<tr>
<td>APPENDIX D: SHORT STORY ASSIGNMENT POSSIBILITIES</td>
<td>67</td>
</tr>
</tbody>
</table>
INTRODUCTION

Individualized Developmental Reading at Gilbert High School, Gilbert, Iowa, is a one semester elective course for students in grades nine through twelve.

The course is developmental in that through it a student is helped to improve his reading abilities in the areas of vocabulary, comprehension, speed, and study skills regardless of his abilities when he begins his work.

The course is individualized in that each student works independently on materials that will help him develop his reading skills; very little whole class or small group instruction is included.

The purpose of this paper is to show the relative value of three different approaches to the teaching of individualized developmental reading at Gilbert High School over a period of three semesters on an experimental basis.
LITERATURE REVIEW

The purposes of this literature review are to establish the importance of reading instruction in general and the importance of secondary school developmental reading instruction in particular. A further purpose is to establish what is now known about how to teach developmental reading: Is the teaching of reading skills necessary in such a program and what type of instruction—group or individualized—should be used?

Why Provide Reading Instruction?

Included in an Education Briefing Paper printed by the United States Department of Health, Education, and Welfare in 1972 are the following statistics: "...the United States has close to 19 million totally or functionally illiterate adults and 7 million elementary and secondary school students with severe reading problems." To attempt to correct these deficiencies the Office of Education under the auspices of the United States Commissioner of Education Sidney P. Marland, Jr., directed $500 million to a Right to Read program. Commissioner Marland said, "The Right to Read effort spans all ages...and is a step toward reducing the unemployment rate, cutting down crime, and getting people off welfare." Apparently the United States Office of Education believes enough in the importance of reading to be willing to spend at least some money in fostering reading programs.

The Iowa State Department of Public Instruction in its Guidelines for Reading Instruction states, "It has long been an accepted truth that one
of the soundest ways to promote present and continued learning is to develop reading skills and interest."\(^2\) The Indiana State Department of Public Instruction's Curriculum Guide in Developmental Reading: Junior and Senior High Schools, Grades 7-12 concludes that "The desirability of programs which accept the challenge of developing as fully as possible the reading capacities of each individual is evident."\(^3\)

Whether this concern is encouraging local school systems to expand their reading programs to include all students or whether these attitudes reflect the concern of local citizens and educators, the fact remains that reading instruction is recognized as an important part of the curriculum by National and State Offices of Education.

Why Secondary School Reading Instruction?

As early as 1925, the importance of secondary school reading instruction was recognized in the following proposal of the National Society for the Study of Education: reading guidance should be provided on the junior and senior high school levels. In 1948, a study by William S. Gray for the same society concluded that secondary reading instruction should be "designed to promote maximum reading growth among all students in keeping with their individual capacities and needs."\(^4\)

The ultimate goal of reading instruction according to Morton Botel in an address to the International Reading Association is reading maturity. Botel states that while reading maturity is different for every individual, three characteristics help to describe the mature reader: 1) devotion to reading as an enjoyable pastime, 2) flexibility
of speed depending on reading purpose, and 3) power to comprehend, ability to interpret what is read, and ability to appreciate the various styles and kinds of literature which are available.\(^5\)

The reading skills stated in number three above are factors of reading maturity which are a part of the thinking process. Since the child's role as a learner of complex ideas and concepts does not end with sixth grade (otherwise, our secondary school curriculum must be judged superfluous), the learning of skills necessary for the child to become a mature reader cannot stop with the end of the sixth grade either. The child's ability to grasp and understand increasingly complex ideas and issues as he continues his schooling and intellectual maturation through junior and senior high school is a premise upon which continuing education beyond the sixth grade is based. Reading skills must continue to develop with the individual as he develops. Jan-Tausch states that critical thinking should be a major objective of the secondary school reading program.\(^6\) Fay,\(^7\) Cushmanbery,\(^8\) Hafner,\(^9\) and Hand \textit{et al.}, concur that "The time for the student to develop critical abilities of evaluating what he reads and relating it to his life comes during the junior and senior high school years."\(^10\)

With Botel's definition of reading maturity, therefore, comes agreement among other educators that reading instruction should be continued through the high school years, that it is desirable for the continued development of critical thinking as well as critical reading abilities.
What Kind of Reading Programs Should be Provided?

Traditionally, secondary school reading instruction has been thought of as remedial in its scope, serving those few students who evidenced severe reading problems. Since about 1960, however, a noticeable increase in developmental programs designed to improve the levels of reading performance of all secondary school pupils has been observed. The increase in the number of these programs and their scope in the secondary schools shows that the Right to Read philosophy has been accepted by local schools as well as by state and national educational leaders.

Bloom Township, Chicago, Illinois, has developed a three-fold model program which strives to reach all students: a reading clinic for severe reading disabilities (i.e., students reading two or more years below grade level), a reading laboratory for all other students, and "Individually Prescribed Study" (IPS) as an elective for students who want help in specific content/subject matter areas of reading. Leo C. Fay says that this total approach to providing reading instruction to all secondary school students is beneficial, with best results being "obtained by including both the developmental and the remedial phases—the developmental as a means of making better readers of all students and the remedial as a service for those who need specialized help." Fay includes the need for a total program which involves all teachers who assign reading of the printed page to their students as a part of the "Ideal Reading Program."
Mary Edward Dolan, in a paper presented to a meeting of the International Reading Association, answers her own question, "Are secondary developmental reading programs feasible?" with a "Yes" which is, however, qualified by the following "ifs": 1) if performance objectives (including a clear, precise description of the behavior expected of the pupil, the conditions under which the learner is to do what he is asked to do, and a definition of the minimal level of proficiency expected) are written and programs are set up based on these objectives, 2) if colleges of education and local schools become partners in the effort of setting up the programs, and 3) if research continues and the results are disseminated to the profession and brought to the practical level in educating secondary school teachers.

Thus, while secondary school reading programs are desirable, educators are beginning to realize that not just any reading program will suffice. We need, then, examine what research shows about the organization of secondary school reading programs.

How Should Developmental Reading Courses be Organized?

Research in the past ten years in particular necessitates the conclusion that developmental reading programs for secondary students should be a basic part of the curriculum. The questions of what to teach and how to teach it, however, are open to considerable debate among current reading specialists.
Course content

The first question—"What to teach"—leads to the controversy about the relative effectiveness of teaching specific reading skills to secondary students as opposed to working to change and improve students' attitudes about themselves and reading.

Hegeman reports that a student will best improve his reading in a "no hassle" atmosphere where each student is allowed to select his own materials and is provided with a quiet, unpressured environment in which to read. Under these conditions, the student is "self-motivated, self-directed, and individually paced with a minimum of supervision."\(^{15}\)

Guttinger et al. report that their reading project, while teaching reading skills, was "based on the premise that growth in feelings of self-worth, adequacy, and confidence did more than the direct teaching of reading."\(^{16}\) In both studies, goal setting by the student was encouraged. On the other hand, Fay\(^{17}\) and Hand et al.\(^{18}\) argue that, while developing positive attitudes toward self and reading are desirable products of the reading program, specific reading skills must be taught primarily. "Practice is not enough," say Dechant,\(^{19}\) Covel,\(^{20}\) and Bond. Bond adds that a child does not "catch reading skills and abilities by simple exposure as he might catch the measles."\(^{21}\)

A problem that Margaret Early points up is that educators have tended to label a class "developmental" if it is not remedial.\(^{22}\) Perhaps that is a reason for the controversy over whether to teach skills or to try to change attitudes primarily. The argument might readily be ended if Dolan's "if" concerning the need for stating specific
behavioral objectives were kept in mind. Accepting Botel's definition of the "mature reader," it would seem that both approaches have their merit depending on the objectives of each course and on which of the three aspects of the mature reader is being emphasized in each course described. Possibly a reading course should be labelled "developmental" if its main purpose is to develop the power to comprehend, interpret, and appreciate various styles and kinds of writing; labelled "free reading" if its main purpose is to develop a devotion to reading as an enjoyable pastime; and labelled "speed reading" if its main purpose is flexibility of speed.

Class organization to account for individual differences

Besides the debate about how to teach developmental reading, a further area of controversy centers on how courses within the program should be organized. Educators agree that "every teacher needs to start where the individual student is and, by providing the most appropriate materials and instruction, help that student develop to his maximum potential." A problem arises, however, when one considers the wide range of reading abilities present in a typically heterogeneous class of high school students. This range of reading levels can be estimated by multiplying the average chronological age of the members of a class by two-thirds. For example, given the average age of high school sophomores as fifteen years, two-thirds of fifteen—or ten grade levels—is the probable range of reading abilities which could occur in a given class of sophomore students.
Hand discusses three basic ways to help take into account this wide range of reading levels within a class: 1) "The Joplin Plan," 2) "individualized reading," and 3) "intraclass grouping." 

The "Joplin Plan" refers to grouping students for reading instruction by eliminating grade-in-school distinctions. For instance, all fourth, fifth, and sixth grade students reading at a particular level would be grouped for instruction regardless of their grade in school. A modification of this plan is described by Ellis in his report that within the junior high reading program with which he is concerned, students are grouped so that there are no more than two reading ability grade levels per class.

When faced with a heterogeneous group, Jan-Tausch reports that one of two methods is usually chosen: either teach the average or diversify instruction. If instructional diversification is chosen (and in all the studies reviewed for this paper it has been), then the teacher is faced with breaking the class into smaller, more homogeneous groups or individualizing instruction. Of these two organizational patterns, Fay says, "Research fails to demonstrate the supremacy of any one approach in meeting individual differences." On the other hand, Noall states, "Grouping within the classroom furnishes only feeble feints at meeting the problem. . . . Because so many kinds of differences intensify the problem of a group working in unison on uniform materials in reading skills, it would seem that this is one area where almost completely individualized work would give the greatest economy and the best results." While Noall's statement seems
to make sense, Schneyer agrees with Fay that there is little significant evidence at present that individualized reading programs are greatly superior to uniform group instruction.\textsuperscript{29} Stauffer offers a reason for this lack of evidence by stating that research so far has been poor mainly because of another problem with definition of terms: often the "individualized" approach does not go beyond "just reading."\textsuperscript{30}

While Dechart admits that "Recent studies have not resolved the issue of organization," he presents a balanced answer to the debate of individualization versus small group ("homogeneous grouped") instruction with "The good educational program has always had some aspect of the individualized program, and the individualized program does not eliminate all group aspects."\textsuperscript{31}

Perhaps if a controlled study were conducted comparing Stauffer's "Boundaries of Individualized Directed Reading-Thinking Activities" with a uniform teaching approach using the same materials on the same level of difficulty (e.g., a basal reader) for all students, evidence might be more conclusive. Stauffer lists the following nine "Boundaries":

1. Each pupil is free to work to pursue an interest. At times a group with the same interest will form.

2. Materials are largely self-selected.

3. Purposes are largely self-dictated.

4. Teachers are constantly available to give help.

5. Opportunity to share reading through reports is provided.

6. Skill training is provided as needed.

7. Pupil and teacher records are kept of reading done, goals accomplished.
8. Teacher pacing is necessary to direct the child to locate materials in keeping with his interest and skills, to develop clearly defined purposes.

9. Listening skills are developed through oral reports; writing skills through written reports.  

In the research done for this paper, an individualized approach similar to the one proposed by Stauffer was selected as the most effective way to help each student improve his reading abilities.

Conclusion

This review of literature concerning secondary school developmental reading instruction shows that while most authors agree that the desired goal is a program which helps every student to improve his reading, disagreement exists about how best to reach every student. More care needs to be taken by researchers to define their terms, to establish the major purposes for their courses, and to study more carefully and objectively the various methods of class organization.
NOTES


2 Iowa State Department of Public Instruction, Guidelines for Reading Instruction: 1970 Curriculum Circular No. 4, Des Moines, Iowa, 1970.

3 John Hand et al., eds., Curriculum Guide in Reading, Developmental Reading: Junior and Senior High Schools, Grades 7-12. (Indianapolis, Indiana: State Department of Public Instruction, 1969), p. 3.


10 Hand, p. 3.


13 Fay, pp. 10-11.


17 Fay, pp. 16-19.

18 Hand et al., pp. 22-23.


22 Margaret J. Early, "What Does Research in Reading Reveal--About Successful Reading Programs?" English Journal, 58 (April, 1969), 538.


26 Jan-Tausch, p. 46.

27 Fay, p. 53.


31 Dechant, pp. 128-29.

32 Stauffer, pp. 105-06.
BACKGROUND

The Community

The Gilbert, Iowa, School District has a population of approximately 2,000. The only businesses in town are a bank, a grain elevator and co-op, a garage, a plumbing shop, and a tavern. The town has a post office, a volunteer fire department, and a policeman who works thirty hours a week.

Within the last ten years there has been a continuous transition from a predominantly rural population to a suburban one. Within the general population of the district, considerable movement is evidenced by approximately 150 change of address notices being received by the school each year.

While a new housing development is now attracting more middle income level people, school administrators say that Gilbert traditionally has had a more than normal number of people at both the high and the low ends of the socio-economic scale with less middle class representation than normal. This type of population range is reproduced within the school by a curve of student abilities which is not quite "bell-shaped" but higher at both the top and bottom ends of the curve than would normally be expected.

The School

Grades kindergarten through twelve are presently located in one building. The school district is growing, with an average increase of twenty-five students each year. This has caused over-crowded conditions
which will be alleviated within two years upon completion of a new elementary building approved by the voters in 1974 through a bond issue.

Enrollment (K-12) for the 1973-74 school year was 620 students. High school (9-12) enrollment was 163 students: 53 in grade 9, 37 in grade 10, 34 in grade 11, and 39 in grade 12.

The Secondary School Language Arts Program

Beginning with the 1972-73 school year, traditionally required Language Arts courses for students in grades 10 to 12 were changed to a variety of semester length elective courses. The traditional courses were Sophomore English, American Literature, and British Literature, each of which lasted for a full school year. The new courses included Composition, Creative Writing, British Literature, American Literature, Speech I and II, Dramatics, Mass Media, Practical English, Novel I and II (primarily individualized reading of novels chosen by each student), and Developmental Reading. Each student was required to complete five semesters of Language Arts courses (including Speech I) before he graduated from high school.

This change to elective courses was viewed by both the administration and the Language Arts teachers as very desirable in the attempt to make the Language Arts program more relevant to the students' needs and to provide for individual differences in abilities and interests.
The Developmental Reading Course

The course description given to each student before he registers for classes describes Developmental Reading as a "course designed to improve a student's reading ability in the areas of vocabulary, comprehension, reading speed, and study skills. A variety of resources and training aids will be available for the student to use."

While it is an elective course, which assumes the student wants to improve his reading abilities, in actuality some students take Developmental Reading merely because they cannot fit any other Language Arts course into their schedule for a particular semester. Furthermore, since no remedial reading instruction is available for secondary students with reading handicaps, teachers, the guidance counselor, and the principal strongly encourage students with severe reading problems to take the course. Thus, pupils with reading abilities of far below grade level (as low as third grade) as well as those who read at grade level and above take the same course at the same time. Student motivation to improve reading skills, therefore, cannot be assumed.

During the first year the course was offered, enrollment was limited to students who were in grades ten to twelve. However, it was decided that the earlier those students who had reading problems took the course the better for them in their high school careers. Therefore, certain ninth grade students (either dysfunctioned readers or under-achievers) were allowed to enroll for Developmental Reading during the 1973-74 school year. Students with reading problems were allowed to enroll for
the course more than once; this was approved at the discretion of the administrator and the teacher.

Three semesters of the Developmental Reading course have now been completed. For the purposes of this report, the classes will be referred to as Group 1 (Fall of 1972, 14 students), Group 2 (Fall of 1973, 23 students), and Group 3 (Spring of 1974, 21 students). These student numbers do not reflect actual class size since some students did not complete the course, and those students who repeated the course were counted only once—the first time they took it. Class size was limited to no more than fifteen students. Classes met for varying lengths of time each day and week. Table 1 shows the breakdown of groups per class and the approximate length of class time per week that each group spent in developmental reading.

Table 2 shows the raw score and grade distribution for students taking the Nelson-Denny Pre-test Fall Semester, 1972. The wide range of differences evidenced by the results of this pre-test made whole group instruction using a common text out of the question. The variances within each part of the test made the efficacy of small group instruction questionable. When, as the semester progressed, the students themselves progressed at varying speeds based on teacher observation, individualized instruction seemed the only logical way to proceed.

The range of reading abilities was equally wide for both other groups. The Grade Equivalents for the Total score (vocabulary and comprehension) in Group 2 ranged from 7.1 to 14; those for Group 3 ranged from -7.0 to 14+. 
Thus, the Developmental Reading course at Gilbert evolved into an individualized course with each student working to improve those skills in which he was particularly weak. Also incorporated into the course was the objective to improve attitudes toward reading. Because of the individualized approach in which each student worked on materials at or below his reading grade level, enabling him to experience success with his reading, the teacher noted that attitudes of the poorer readers improved almost automatically.

Table 1. Group distribution and hours per week in class

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Class</th>
<th>Number of students in class</th>
<th>Number of students reported</th>
<th>Days met</th>
<th>Length of class meetings</th>
<th>Hours per semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>16(^a)</td>
<td>14</td>
<td>3 of every 4 days</td>
<td>3-55 min. 1-25 min.</td>
<td>3,308</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>17(^b)</td>
<td>14</td>
<td>5 days per week</td>
<td>3-55 min. 1-25 min.</td>
<td>4,410</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>11(^c)</td>
<td>9</td>
<td>5 days per week</td>
<td>55 min.</td>
<td>5,150</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>15(^d)</td>
<td>12</td>
<td>5 days per week</td>
<td>3-55 min. 1-25 min.</td>
<td>4,410</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>12(^e)</td>
<td>9</td>
<td>5 days per week</td>
<td>55 min.</td>
<td>5,150</td>
</tr>
</tbody>
</table>

\(^a\) One student entered after the first nine weeks had been completed; one student dropped the course.  
\(^b\) Three students repeated the course; their results were not included.  
\(^c\) Two students repeated the course.  
\(^d\) One student repeated the course; two students dropped it.  
\(^e\) Two students repeated the course; one student dropped it.
Table 2. Pre-test distribution for Group 1 using the Nelson-Denny Reading Test, form A

<table>
<thead>
<tr>
<th>Student</th>
<th>Vocab</th>
<th>Comprehension</th>
<th>Total</th>
<th>Rate(^a)</th>
<th>Vocab</th>
<th>Comprehension</th>
<th>Total</th>
<th>Rate(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>10</td>
<td>11</td>
<td>82</td>
<td>-7.0(^b)</td>
<td>-7.0</td>
<td>-7.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>12</td>
<td>17</td>
<td>161</td>
<td>-7.0 (^b)</td>
<td>-7.0</td>
<td>-7.0</td>
<td>7.5</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>10</td>
<td>18</td>
<td>68</td>
<td>-7.0 (^b)</td>
<td>-7.0</td>
<td>-7.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>10</td>
<td>21</td>
<td>82</td>
<td>8.1</td>
<td>-7.0</td>
<td>-7.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>18</td>
<td>23</td>
<td>140</td>
<td>-7.0 (^b)</td>
<td>7.5</td>
<td>7.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>6</td>
<td>9</td>
<td>16</td>
<td>25</td>
<td>238</td>
<td>7.7</td>
<td>7.0</td>
<td>7.2</td>
<td>11.2</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>20</td>
<td>29</td>
<td>207</td>
<td>7.7</td>
<td>7.9</td>
<td>7.7</td>
<td>9.3</td>
</tr>
<tr>
<td>8</td>
<td>13</td>
<td>16</td>
<td>29</td>
<td>226</td>
<td>8.5</td>
<td>7.0</td>
<td>7.7</td>
<td>10.3</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>18</td>
<td>30</td>
<td>150</td>
<td>8.3</td>
<td>7.5</td>
<td>7.8</td>
<td>7.0</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>24</td>
<td>32</td>
<td>318</td>
<td>7.5</td>
<td>8.9</td>
<td>8.1</td>
<td>14.0(^c)</td>
</tr>
<tr>
<td>11</td>
<td>10</td>
<td>22</td>
<td>32</td>
<td>207</td>
<td>7.9</td>
<td>8.4</td>
<td>8.1</td>
<td>9.3</td>
</tr>
<tr>
<td>12</td>
<td>16</td>
<td>28</td>
<td>44</td>
<td>216</td>
<td>9.2</td>
<td>9.8</td>
<td>9.5</td>
<td>9.7</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>44</td>
<td>57</td>
<td>226</td>
<td>8.5</td>
<td>13.5</td>
<td>11.1</td>
<td>10.3</td>
</tr>
<tr>
<td>14</td>
<td>21</td>
<td>38</td>
<td>59</td>
<td>396</td>
<td>10.4</td>
<td>12.4</td>
<td>11.4</td>
<td>14.0(^c)</td>
</tr>
</tbody>
</table>

\(^a\)Given in words per minute based on a one minute timed reading (not considered to be an accurate speed measure, but an indication of speed).

\(^b\)The test does not give grade equivalencies below grade 7; however, further testing showed Student 1 at grade 3.5 for total score; Student 2 was at 4.0; Student 3 at 4.5; and Student 4 at 6.0 based on the Nelson Reading Test, Grades 3-9.

\(^c\)This test does not give grade equivalencies above second year college.
MATERIALS AND METHODS

Materials used by each group depended on the individual's specific needs except in the area of placement tests (both pre- and post- tests) which everybody was required to take. The methods used varied from group to group as the teacher tried to improve the effectiveness of the teaching process.

Materials

Tests

The following tests were administered to each student as he began the course. Tests marked with an asterisk (*) were given to every student; the others were used only in special cases when more testing was felt to be necessary to establish an approximate reading level for a student.

*Nelson-Denny Reading Test forms A, B, C, and D (Houghton-Mifflin) are used to check vocabulary level, comprehension, and speed. This test was used because of its short administration time (30 minutes); its chart of Grade Equivalencies which are more meaningful to students, parents, and teachers; and its four forms which make repeat testing of students taking the course more than once possible.

*Reading for Understanding Placement Test (SRA) is used to check comprehension level. This test is untimed; the student works until he feels very frustrated.

*Word Clues Test forms A and B (EDL) provide a check on how well the student can determine the meanings of unknown words or partially
known words by using context. **Word Clues Appraisal** forms AA and BB (EDL) are used at the end of the semester as a post-test.

**SRA Reading Laboratory IVA Starting Level Guide** is used to check comprehension level.

**Nelson Reading Test, Grades 3-9** forms A and B (Houghton-Mifflin) is used to test students who score below seventh grade level on the **Nelson-Denny Reading Test** to determine how low the vocabulary and comprehension levels actually are for those students.

An informal reading test was used for students reading below the sixth grade level to check vocabulary level and to help locate weaknesses in word attack skills.

**Machines**

*One Controlled Reader (EDL)*

*One Tachistoscope (EDL)*

One Skimmer/Scanner (EDL)

**Printed materials and filmstrips**

*Controlled Reader Study Guides and filmstrips, levels DA, FA, GH, IJ, and KL (levels 4, 6, 7-8, 9-10, and 11-12) were used to improve directional attack, speed, comprehension, and motivation.

*Tachistoscope films of intermediate numbers were used to help with student self-image and motivation.

*Reading Efficiency books (EDL) were used for self-timed speed reading checks to help with transfer from the use of the controlled reader machine to reading by oneself with increased speed. Levels available were 4, 6, 7-8, 9-10, 11-12.*
Reader's Digest *Help Yourself to Improve Your Reading*, books 1 and 2, provided supplementary self-timed speed reading exercises.

*SRA Better Reading Books 1 and 2* also provided supplementary self-timed speed reading exercises.

*SRA Reading Laboratory IVA* (grades 9 to college) were used for building word attack skills, comprehension abilities, and speed.

*Reading Effectively* (Holt, Rhinehart, and Winston) was used for self-timed speed reading exercises, for reinforcing knowledge about the reading processes, and for comprehension building.

*How to Become a Better Reader* (SRA) was used for speed and comprehension building.

*Reading for Understanding, General Edition* (SRA) was used to help build comprehension skills.

*EDL Word Clues* books (level 7-13) were used for vocabulary building.

*EDL Study Skills Library* (levels 5-9) were used to build reference abilities as well as social studies and science study skills.

*Scope Reading* books 1, II, III, IV (Harper and Row) provided high interest stories for comprehension building.

*Teen-Age Tales* books 2, 4, and 6 (Heath) also provided high interest stories for comprehension building.

*Kaleidoscope Readers* (Field) were borrowed for three week periods from the Area XI Regional Media Center in Ankeny, Iowa, and were used to improve comprehension skills.
A paperback library of approximately 100 books was also used to provide multi-level, multi-interest books for free reading and book reviews.

Those items with asterisks were introduced to the whole class to save teacher time. The other materials were introduced as the need arose for individuals or groups of individuals. The Skimmer/Scanner machine was introduced only after the student had demonstrated his ability to read more than 450 words per minute with 90 percent comprehension on materials at his grade level or beyond. Extremely dysfunctioned readers worked on phonics skills with books borrowed from the elementary school remedial reading teacher.

Methods

The objectives of the developmental reading courses were, in order of importance: 1) to determine where each student's reading strengths and weaknesses were and from there to formulate an individualized program to strengthen each student's skills in the areas of vocabulary, comprehension, and speed so that the "average" student would increase his total reading ability by at least one year based on a pre- to post-test comparison using the Nelson-Denny Reading Test, 2) to improve attitudes toward reading as evidenced by student enthusiasm in discussion about books chosen for free reading, and 3) to improve study skills so that the incidence of student failures in other courses was reduced. For the purposes of this discussion, the first objective--strengthening reading skills--will be of prime importance.
In order to reach the above objectives, different patterns of classroom organization and methods were used although each semester was begun in essentially the same way and certain activities throughout the semester were handled similarly. Because of this, the "methods" section of this paper will first include a discussion of the commonalities of instruction and then deal with the differences.

Common to each group were whole group discussion, activities, and teacher lecture about basic reading philosophy, psychology, and techniques. Furthermore, the pre- and post- tests, introduction of certain materials, and assignment of certain specific class requirements were accomplished through whole group instruction and did not vary from group to group. Finally, the basic atmosphere of the classroom did not change significantly from group to group.

Instruction Common to All Groups

The semester was begun similarly for each group with day one being spent on discussion. First, individual differences were discussed in an attempt to enable each student to accept his own reading problems and the problems of his classmates. The objective sought through this discussion was to have each student realize that because a reading dysfunction existed did not mean that a student was a "dummy"; it did, however, mean that a student was probably not receiving the grades in school which he might be receiving if he were to overcome his problem.

Besides the acceptance of the fact that individual differences do exist, another goal of this first day discussion was to enable the students who did have severe problems to determine why they might have
developed the problems. Here, since intelligence tests and physical examinations did not show any great abnormalities among any of the students, the teacher concentrated on possible psychological reasons for the poor reader's problems such as his being "forced" to try to read before he was physically and/or emotionally mature enough, lacking books and adult example of reading for pleasure in his home, having a vision or hearing problem that was not diagnosed and corrected before he began to try to learn to read, suffering frequent illness or moving from school to school during the early elementary school years, being given books to read which were too difficult for him at any particular time, and even having a teacher with whom he had a personality clash during his early school years were all presented as possibilities for a student's reading problems.

A final phase of the Day 1 whole class discussion was a teacher explanation of the purposes and types of diagnostic and placement tests which the students would be taking during the following few days of class. Because of the previous discussion, the ground work had been laid for the students to accept the fact that each of them had different reading abilities and should be working on different reading problems using materials of different levels of difficulty. Thus, the need for the diagnostic tests was established in the mind of each student; he wanted to see exactly where his reading strengths and weaknesses were so he could begin to improve his reading abilities.

The second and third days of class were spent by the students taking the Nelson-Denny Reading Test, the Reading for Understanding
Placement Test, and the Word Clues Vocabulary Test. If the need for further testing was indicated, it was done after students had begun individualized work and was administered to only one or two students at a time.

On the fourth day, students brought their textbooks to class and determined the readability of their texts using Fry's Readability Graph (see Appendix A). While they were counting 100 word samples as well as the number of words per sentence and the number of syllables in the samples, the teacher discussed the results of the diagnostic and placement tests with each student individually. Toward the end of the class, the approximate readability levels of the texts were placed on the board so that students could compare their approximate reading grade levels with those of the texts they were required to read. This exercise was done to provide further motivation for poor readers to work to improve their reading skills.

Approximately one class meeting every two weeks involved such whole group instruction as the following: teacher explanations about eye movement, fixation, and regression with students watching each other's eye movements; explanation and use of the SQ3R (survey, question, read, recite, review) method of approaching a reading task especially in connection with choosing, reading, and reviewing a free reading book and reading textbook assignments; discussion about and work with the use of prefixes, suffixes, and roots in vocabulary development; and teacher explanation followed by student practice to point up the need to vary speed depending on reading purpose and the difficulty of the material to be read.
A paperback library of approximately 100 books was in the room, and the purchase of paperback books through the Campus Book Club was encouraged. Also, sharing of books students were reading was often done during the last few minutes of class periods. Each student was expected to bring his free reading book with him to class daily so that in case he finished one assignment and did not have time to complete another he could work on his book review assignments.

As noted previously in the "Materials" section of this paper, the use of the Controlled Reader, the Tachistoscope, Reading Efficiency books, Reading for Understanding cards, Word Clues books, Study Skills Library cards, and Reading Efficiently books were introduced and demonstrated at least once to each class. Students were then able to use these materials correctly, thus making record keeping easier to accomplish.

The teacher moved around the room, checking on students' progress, encouraging them if they had reached a plateau, presenting new materials for the student to use if he was experiencing difficulty with some phase of his work, and praising each student whenever possible.

Whole group instruction was used, therefore, to save teacher time in beginning student motivation, imparting information which each student should know, and testing students and demonstrating materials which all students would be using at various times during the course.

Course Requirements Common to All Groups

Aside from the few instances where whole group discussion and activities were taking place, the work done by the individual was
usually different for every student in the class at any given time of the class period. For this reason, very little student-to-student discussion was allowed. The students were required to enter the classroom, pick up their record folders, get the material they wanted to work on first, and begin their work quietly. Silence prevailed except when a student was talking to the teacher about his work. Students were allowed to move freely but quietly around the room to pick up different material, use the reading machines, or browse at the paperback library; the key to this free movement, however, was the word "quietly."

Each student was expected to keep records of the work he was doing. The teacher checked these records almost daily. Each student was given an Assignment Sheet which included blanks for the dates the Assignment Sheet was begun and completed, the number of assignments required, a list of the specific materials to be used, a student evaluation of his work, and a statement ("I have done the above assignments to the best of my ability.") to be signed by the student. Samples of the Assignment Sheets used for each group are in Appendix B. After a student finished the assignments on his Assignment Sheet, he filled out the evaluation, signed his name, and discussed what he had done with the teacher. After this discussion of accomplishments and further needs of the student, a new Assignment Sheet was given to the student. Each Assignment Sheet was designed so that the student could complete it in less than two weeks if he worked steadily on it, only taking off one or two class periods for free reading.

Extra free reading on library books was allowed if the student was completing Assignment Sheets at least every two weeks. While no actual
homework assignments were given, two book reviews a semester were required based on the students' free reading, so reading of library books for the reviews was usually necessary outside of class time. Some students also elected to do extra work on their assignment sheets during study center time so that they could read their paperback books during class.

The final examination grade (which was one fifth of the semester grade) was based on a comparison of pre- to post- test results using the Nelson-Denny Reading Test, the Word Clues Test, and the Reading for Understanding test. With the Nelson-Denny Test, those students who improved their scores in all four areas received an "A"; in three areas, a "B"; in two, a "C"; in one, a "D". If no improvement was evidenced, the student received an "F" for that test. The Word Clues and Reading for Understanding tests were graded on a curve depending on class gains. All three test grades were then averaged; the grade for the Nelson-Denny Test gains, however, was counted twice, giving it more importance in the final determination of the examination grade.

Because these grades were based on improvement, the poor reader had as much opportunity to receive an "A" grade for the final examination as did the better reader.

The basic intent of these common class requirements was to establish an atmosphere of respect: student respect for himself, teacher respect for student effort, and student respect for the work of his classmates.
Methods Differing from Group to Group

The main difference in the three groups was the increased freedom and responsibility placed on the student and decreased teacher prescription of activities as the course developed from semester to semester. Group 1 work was mainly teacher prescribed; Group 2 changed from teacher prescribed to student prescribed work; and Group 3 work was mainly student prescribed. These differences existed in the areas of vocabulary and comprehension skill building activities.

Vocabulary

Group 1: Fall Semester, 1972 Besides the required completion of ten Assignment Sheets and two book reviews per semester, each student was tested on ten vocabulary words a week. The word list was determined mainly by how well the student had done on the Word Clues Placement Test, with his score from the Vocabulary section of the Nelson-Denny Reading Test being considered if the student was not clearly at a particular Word Clues level. Based on the apparent level of vocabulary development, the student was assigned a particular Word Clues book in which to begin his work. For instance, the student who scored very low on both tests was assigned to Book G (7th grade level according to EDL guides). Lessons in each book were set up with ten words per lesson, so each student completed one lesson a week. If the student found the words too easy or too difficult, he was immediately moved to a different Word Clues book. The student went through one lesson per week beginning with Lesson 1 regardless of the possibility that he already knew some of the words.
The Word Clues books are programmed. Each word is first used in a sentence. The student is asked to guess the meaning of the word from its context. Then the word is used in another sentence and the student must choose a synonym from a list of four synonyms. Finally, a dictionary entry example is given and the student must choose those instances in which the word is used correctly based on this example. Correct answers are immediately available so that the student can check his responses.

The vocabulary test given every week was multiple choice; the student merely circled the best definition. An extra credit question was asked to each group of students who had worked on the same lesson in the same book. For example, Lesson 1 of Book G includes the word "postpone." The extra credit question for those students being tested on that lesson was "What does the prefix 'post' mean as it is seen in 'postpone,' 'postdate,' and 'posterior'?" This was done in an effort to help students become familiar with prefixes, suffixes, and roots and to enlarge the number of words to which a student was exposed.

At the end of the first nine weeks of class, a test was given based on the first fifty words learned, from which the student was required to choose twenty words and incorporate them into a story that made sense. A similar test over 110 words was given at the end of the semester.

Two problems were felt to be present in the vocabulary work done by Group 1: 1) students already knew some of the words assigned to them each week, and 2) a vocabulary test each week created negative responses from the students. Therefore, vocabulary requirements were changed the next time the course was offered.
Group 2: Fall Semester, 1973

In an attempt to improve vocabulary instruction, only fifteen words were assigned every two weeks. While the Word Clues books were still used for a majority of the words each student was to learn, the student was told to go through the words in his book and select only those words that he did not know. He was also encouraged to include words which he did not know but encountered in his reading.

By the end of week one of each two week cycle, each student was required to hand in his list of fifteen words plus a definition of the word and a sentence showing correct use of each word. The teacher then made up a test for each student, using his words. (See Appendix C for an example of the tests.) By the end of the second week of the cycle, the student took the test which had been prepared for him on a 4 x 6 card. If he did not receive over 80% on the test, he studied the words again and took another test within a few days.

Since every student had different words and teacher time was limited, no review test was given during the semester. While this method of instruction seemed more palatable to the students, the teacher questioned the procedure. Were the hours spent by the teacher composing individual tests really worth it? Were the students really selecting words they did not know or were they taking the easy way out by selecting words they already knew? To attempt to answer these questions, vocabulary instruction was again changed for Group 3.

Group 3: Spring, 1974

Vocabulary was handled differently for each nine weeks' period of the Group 3 classes. During the first nine
weeks, vocabulary requirements were similar to those of Group 2 except the teacher made a special effort to see that words from each student's reading assignments which he did not know were added to his list.

During the second nine weeks, each student was given the option of continuing specific vocabulary study and counting each five words learned as an assignment on his Assignment Sheet or not doing any specific work on vocabulary. Of the 21 students in this group, only five students elected to continue working on vocabulary as a separate assignment.

Added to this period of class time was a concentrated effort to teach students to build words through a knowledge of prefixes and suffixes. A new prefix or suffix was introduced by the teacher at the beginning of each class period. Each student kept a list of the prefixes and suffixes, their meanings, and sample words which were formed by using the prefixes or suffixes. A test was given at the end of the nine week period which called for the student to define a list of twenty prefixes, write a sample word using that prefix, and define that word.

Before the last nine weeks of Group 3's work, vocabulary study was not a part of the biweekly Assignment Sheets which were used primarily for comprehension skill building.

**Comprehension skill building**

The second area of differences in method of instruction was in the procedure of Assignment Sheets. As stated previously, all students were required to complete an Assignment Sheet at least every two weeks. The
differences occurred in the amount of teacher-directed and selected goals and activities as opposed to student-selected goals and activities.

Group 1 Based on the Nelson-Denny pre-test primarily as well as the Reading for Understanding Placement Test and the SRA Reading Laboratory IVA Starting Level Guide, the student was assigned a number of activities to complete within a two-week period. For example, if a student's total reading score placed him at about the eighth grade level with a rate score of about 120 words per minute, a typical Assignment Sheet would include the following items (the material in parentheses would not be included in the actual Assignment Sheet given to the student):

1) 3 Controlled Reader exercises using book F (6th grade level) beginning with a speed setting of 100 words a minute. (Notice that the student was placed below his apparent grade level and tested speed to insure success as he began his work.)

2) After completing the Controlled Reading assignments, read one Reading Efficiency story using book FA (6th grade level) and time yourself to check your speed.

3) 4 Reading for Understand Cards beginning with card number 30 (this beginning number was based on the Reading for Understanding Placement Test).

4) Choose 1 Scope 2 story, read about half of the story, close your book, write how you think the story will end, finish reading the story, write how the story actually ended if it was different from your ending, and write which ending you liked best--yours or the story's--and why.
(Various other assignments based on stories are described in Appendix D.)

The above sample assignments written on an Assignment Sheet was changed both in number of activities and the level of difficulty of materials for students reading at different levels. For example, an Assignment Sheet for a student reading at about the eleventh grade level at a speed of about 250 words per minute would include the following items:

1) 4 Controlled Reader exercises using book IJ (9th-10th grade level) beginning at 200 words per minute.

2) 2 Reading Efficiency stories, book GH: do one after completing two Controlled Reader exercises; the other after having completed all four exercises.

3) 5 Reading for Understanding cards beginning with card number 60.

4) 30 tachistoscope numbers at the "A" setting (1/100th of a second).

After a student completed his Assignment Sheet, he made an evaluation by stating what work was most interesting, most challenging, and most worthwhile to his improved reading ability; he was also asked to mention what he would add to or subtract from the assignments. After discussing these answers and the work accomplished by the student with the student, the teacher prepared another Assignment Sheet for the student. The teacher always attempted to follow the student's desires concerning what materials to have him work with. If the teacher felt that a particular type of exercise would help the student in spite of his objections, the exercise was added to the Assignment Sheet after the reasons for continuing the exercise were explained to the student.
In addition to changing the Assignment Sheet every two weeks at least, the teacher would occasionally change a student's assignments as he was working on completing an Assignment Sheet. This change occurred if the student was evidencing frustration with the work, if he complained that the work was too easy, or if it seemed that too much work had been assigned for that two week period.

Because only one controlled reading machine was available, the teacher tried to group students so that several students could use the machine at the same time. After four weeks, the grouping was abandoned as impractical; students within each group progressed so unevenly that constant shuffling of students from group-to-group was required, and even by increasing the number of groups within a class (to as many as seven groups) each student was still unable to work at the best speed for him. Thus, each student was taught how to run the controlled reader. A sign-up list was kept on the board so that students knew when it was their turn to use the machine. This helped avoid a "scramble" for the machine each day.

The teacher-prescribed Assignment Sheets as used for Group 1 had two major drawbacks. First, better readers quickly discovered that they were assigned more work to do than their slower classmates. No amount of explanation stilled the "It's not fair!" complaints for long. Second, if the premise that only the reader himself could improve his reading skills were valid, then why not also accept the premise that only the reader best knew what materials were helping him improve his reading skills. Therefore, the Assignment Sheet procedure for Group 2 was changed from the Group 1 procedure.
Group 2  All students were required to do the same number of assignments for each of the various Assignment Sheets required during the semester. For example, the first Assignment Sheet for each student called for a total of nine assignments. The difference lay in the difficulty of the material used. The number of required assignments on every Assignment Sheet after the first one increased by one until a total of twelve assignments was required for each Assignment Sheet until the end of the semester.

After the first two Assignment Sheets filled out by the teacher had been completed, students were allowed to choose the materials they wanted to work on as long as they completed the required number of assignments. The teacher also usually required a student to do at least two Controlled Reader exercises a week. And, if a student was experiencing a particular skill problem, the teacher added work to correct the problem. Thus, the teacher did not relinquish direct control over the materials used by the student.

As a part of the evaluation for each Assignment Sheet, the student was required to state why he chose to work on each of the materials he used. If these reasons were inadequate--e.g. "I choose Scope 2 stories because they were easy"--the teacher supervised the next student selection of materials, questioning each of the student's choices as he made them.

The question of why a student chose to work with particular materials became a problem: often the student was unable to articulate the "why" of his choices. Therefore, Group 3 Assignment Sheets were changed to help resolve the question.
Group 3  The Assignment Sheet for Group 3 first called for the student to set at least two, but no more than four, specific goals before selecting the materials he would be using. The teacher checked these goals before the student began his work to make sure the goals were realistic (i.e., not easy; not too difficult). To facilitate this goal setting, the student was only required to fill in certain blanks provided for him on the Assignment Sheet. For example, if the student chose to work to improve his ability to read faster without a machine to push him, he would fill out the "self-timed reading" goal by filling in the following blanks: "I shall try to read ____ words per minute with ____ percent comprehension." Then, in Part II of the Assignment Sheet he would fill in the number of self-timed readings he actually did as well as the specific book or books he used for the exercises. Finally, after he had completed the total number of required assignments for that Assignment Sheet, he would turn to the "Evaluation" section (Part III), filling in more blanks: "I read ____ words per minute in Book_______ with ____ percent comprehension. (Appendix B contains a complete example of this type of Assignment Sheet.)

Grades

Every nine weeks, the teacher was required by the administration to assign each student a grade. Group 1 grades were determined by teacher analysis of how well each student had completed his work (a total of four Assignment Sheets, ten vocabulary words a week, and one book review per nine week period). Classroom attitude was also used as a factor in determining grades. No specific standards had been determined in advance.
which made it difficult to justify giving one student an "A" grade and another a "B." Therefore, the approach to grading was altered for the other two groups.

In Groups 2 and 3, students were allowed to contract for an "A," "B," or "C" grade based on the following pre-determined requirements for each nine week period: 1) for a "C" grade: four Assignment Sheets completed, 60 vocabulary words learned (Group 2 and the first nine weeks of Group 3; for the second nine weeks of Group 3's work, a passing grade on the prefix test was required), and one book review; 2) for a "B" grade: either an extra Assignment Sheet, 30 extra vocabulary words, or an extra book review; 3) for an "A" grade: an extra Assignment Sheet, 30 extra vocabulary words, and an extra book review. If a student did not complete the work required for a "C" grade, he automatically received an "F" for the nine week period. Since a poor attitude showed up in the amount of work completed by the student, classroom attitude was not an essential factor in the determination of grades for Groups 2 and 3.

The use of contracting for a grade and the deletion of the "D" grade proved to be an aid to motivation. Students knew exactly what they needed to do for a certain grade and could be told at any time during the grading period how much more they needed to do for the grade they wished to receive. After students found out that the teacher would abide by the basic "C" requirements, students worked to make certain they completed the necessary requirements. Usually they found that before the end of the grading period they had completed the basic requirements.
and had time to do extra work for a "B" grade.

Collection of Data

The experimental shift from teacher-prescribed to student-selected goals and materials evolved as the teacher attempted to develop a course in developmental reading which would help most of the students improve their reading skills and their attitudes toward reading as a pleasurable activity. The variables used as data pertain particularly to the skill building areas of vocabulary enrichment, comprehension power, and speed flexibility, since these are readily measurable.

To determine the effectiveness of the Developmental Reading course in the skill building areas, Group 1 was given the Nelson-Denny Test Form A as a pre-test and Form B as a post-test; Group 2 was given Form B as a pre-test and Form A as a post-test; Group 3, Form A as a pre-test and Form C as a post-test. The reason for giving the same form of the post-test as a pre-test the next semester (e.g. Group 1=post-test Form A; Group 2=pre-test Form A) was to reduce the number of tests that students who repeated the course were required to take. Results of their post-test were automatically counted as pre-test results for the next semester.

Analysis of Data

Each student's pre- and post-test scores were read into a computer, and various tests were run to determine the tenability of the following null-hypotheses to the .05 level of significance: 1) no significant difference between the means for the pre- and post-test scores for the total sample (58 students, 3 groups) will be evident in the areas of
vocabulary, comprehension, total score and speed raw scores, 2) no significant difference between the three groups in the four testing areas is evident, 3) no significant difference in reading performance will occur because of sex differences, and 4) no significant difference will exist because of grade in school at the time the course was taken by the student.

Student's correlated t test

The correlated t was figured to the .05 level of significance using 57 degrees of freedom and 2-tail probability in order to test null-hypothesis number 1 (no significant difference between the pre- and post-test means for the total sample will be evident).

Analysis of variance and Scheffé procedure

An analysis of variance was done to determine if a significant difference existed between the means for each of the three groups. Scheffé procedure was also utilized when significant analysis of variance F was achieved. The Scheffé test enabled a determination of where within the three groups the specific differences occurred.

Analysis of variance and Scheffé procedure were also used to check null-hypotheses 3 and 4 concerning the differences in sex and in grade in school.

Grade equivalent extrapolation

After the correlated t value had been established in each of the test areas for the total student population, the Nelson-Denny Examiner's Manual for test forms A and B as well as for test forms C and D was used
to extrapolate approximate grade equivalency gains from the raw score gain as computed by the Mean Difference. This was done to determine whether the course objective that each student would improve his total reading ability by at least one year had been met. While the extrapolation is only an approximation and is based only on the mean gain, a fifth null-hypothesis was formulated: the average student did not gain at least one year in total reading ability.
RESULTS AND DISCUSSION

Student's Correlated t Test

Table 3 shows the results of the Student's correlated t test for the 58 students who were involved in the Nelson-Denny pre- and post-testing. By extrapolating from the "Table of t" found in Appendix B of Statistical Methods in Educational and Psychological Research by James E. Wert et al., the tabled value of t for 57 degrees of freedom at the .05 level is 2.018. Since the t values of all four test areas are greater than 2.018, the null-hypothesis "no significant difference between the total pre- and post- test raw scores will be seen" can be rejected.

Table 3. Student's correlated t test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Mean difference</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocab. post-</td>
<td>24.93</td>
<td>4.90</td>
<td>4.58</td>
</tr>
<tr>
<td>Vocab. pre-</td>
<td>20.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp. post-</td>
<td>31.03</td>
<td>3.97</td>
<td>3.69</td>
</tr>
<tr>
<td>Comp. pre-</td>
<td>27.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total post-</td>
<td>55.81</td>
<td>8.78</td>
<td>6.34</td>
</tr>
<tr>
<td>Total pre-</td>
<td>47.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed post-</td>
<td>312.36</td>
<td>107.59</td>
<td>7.89</td>
</tr>
<tr>
<td>Speed pre-</td>
<td>204.78</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The interpretation may be made that the usefulness of the Developmental Reading course has been demonstrated for an infinite hypothetical student population from which the 58 students, about whom the analysis has been made, might be assumed to represent a random sample.

Analysis of Variance

An analysis of variance was done to test null-hypothesis number 2 that there is no significant difference among Groups 1, 2, and 3 in the four testing areas. Table 4 shows this analysis for the three groups in the test areas.

Table 4. Analysis of variance

<table>
<thead>
<tr>
<th>Test area</th>
<th>Group</th>
<th>Count</th>
<th>Mean</th>
<th>F ratio</th>
<th>F probability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>14</td>
<td>11.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td>2</td>
<td>23</td>
<td>6.00</td>
<td>12.147</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>21</td>
<td>-0.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>58</td>
<td>4.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehension</td>
<td>1</td>
<td>14</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23</td>
<td>2.09</td>
<td>4.075</td>
<td>0.022</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>21</td>
<td>7.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>58</td>
<td>3.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>14</td>
<td>11.93</td>
<td>0.904</td>
<td>0.414</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23</td>
<td>8.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>21</td>
<td>7.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>58</td>
<td>8.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>1</td>
<td>14</td>
<td>121.43</td>
<td>0.992</td>
<td>0.379</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23</td>
<td>122.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>21</td>
<td>82.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>58</td>
<td>107.59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Scheffé range of significance at the .05 level was computed as 3.54 for this study. Thus, if the mean of one group differed from the mean of any other group for a particular test by more than 3.54, the difference was significant.

As seen on Table 4, the differences among the groups in vocabulary were highly significant with the means of each of the groups differing by more than 3.54. Especially significant is the 11.4900 difference between Group 1 and Group 3. Thus, part one of null-hypothesis number 2 must be rejected: vocabulary scores did differ significantly among the three groups. For this reason, teacher-prescribed vocabulary work is indicated as the most effective method of instruction as compared with the methods which allowed the student more freedom.

On the other hand, differences in comprehension gains as seen in Table 4 showed the opposite results. While Groups 1 and 2 did not differ significantly, Group 3 greatly surpassed the Scheffé 3.54 mark. Thus, part two of null-hypothesis number 2 must be rejected. Comprehension scores increased significantly when students were allowed to set their own goals and choose their own materials as compared with the methods involving more teacher prescription.

When dealing with the "Total" part of the test, one would assume that since Group 1 was clearly superior in the vocabulary area and Group 3 was superior in the comprehension area with Group 2 falling in the middle in both areas, no significant difference would occur when the vocabulary and comprehension mean scores were combined. This assumption
is accurate as evidenced by the non-significant F ratio in Table 4.

Speed gains were inconclusive in the analysis of variance as shown on Table 4. Therefore, part four of null-hypothesis number 2 that no significant difference in speed gain will be seen among the three groups was not rejected.

Table 5 shows an analysis of variance according to the sex of the students. None of the F ratios are significant at the .05 level. Therefore, null-hypothesis number 3 that no significant difference in reading performance will occur because of sex differences was not rejected.

<table>
<thead>
<tr>
<th>Test area</th>
<th>Sex</th>
<th>Count</th>
<th>Mean</th>
<th>Deviation</th>
<th>F ratio</th>
<th>F probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocab.</td>
<td>Male</td>
<td>37</td>
<td>4.57</td>
<td>6.60</td>
<td>0.164</td>
<td>0.662</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>21</td>
<td>5.48</td>
<td>10.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp.</td>
<td>Male</td>
<td>37</td>
<td>4.65</td>
<td>7.73</td>
<td>0.709</td>
<td>0.408</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>21</td>
<td>2.76</td>
<td>8.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Male</td>
<td>37</td>
<td>9.30</td>
<td>10.01</td>
<td>0.246</td>
<td>0.618</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>21</td>
<td>7.86</td>
<td>11.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>Male</td>
<td>37</td>
<td>104.97</td>
<td>112.55</td>
<td>0.064</td>
<td>0.685</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>21</td>
<td>112.19</td>
<td>88.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In testing null-hypothesis number 4, the F ratio was again not significant in any of the four testing areas. Table 6 shows the analysis of variance. Because of the insignificant F ratio, null-hypothesis
number 4 was not rejected: there was no significant difference in mean scores because of grade in school.

Table 6. Analysis of variance--grade in school

<table>
<thead>
<tr>
<th>Test area</th>
<th>Grade</th>
<th>Count</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>F ratio</th>
<th>F probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocab.</td>
<td>9</td>
<td>7</td>
<td>2.43</td>
<td>4.43</td>
<td>2.057</td>
<td>0.115</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28</td>
<td>3.29</td>
<td>9.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>12</td>
<td>5.58</td>
<td>8.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>11</td>
<td>9.82</td>
<td>5.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comp.</td>
<td>9</td>
<td>7</td>
<td>9.43</td>
<td>12.47</td>
<td>1.491</td>
<td>0.226</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28</td>
<td>3.86</td>
<td>6.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>12</td>
<td>3.50</td>
<td>8.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>11</td>
<td>1.27</td>
<td>7.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>7</td>
<td>11.86</td>
<td>14.55</td>
<td>0.451</td>
<td>0.679</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28</td>
<td>7.39</td>
<td>10.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>12</td>
<td>8.58</td>
<td>10.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>11</td>
<td>10.55</td>
<td>9.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>9</td>
<td>7</td>
<td>99.14</td>
<td>102.18</td>
<td>1.206</td>
<td>0.316</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>28</td>
<td>84.04</td>
<td>80.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>12</td>
<td>140.75</td>
<td>140.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>11</td>
<td>136.73</td>
<td>110.42</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grade Equivalency Extrapolation

Based on the "Grade Equivalent Norm Table (Table 10)" provided in the Nelson-Denny Examiner's Manual for Forms A and B and Forms C and D, the mean difference in the raw scores as seen in Table 3 was used to compute approximate mean grade equivalency gains. These gains were figured out to be: vocabulary, 1.5 years; comprehension, 1.1 years;
total, 1.35 years, and speed, 4.7 years. Thus, null-hypothesis number 5 must be rejected. The average student gained over a year in each of the test areas.
CONCLUSION

The evaluation of the three different approaches to the teaching of Individualized Developmental Reading at Gilbert High School centered on two general reading skill areas—vocabulary and comprehension. The reason for this is that those areas are easily measured and compared statistically. The basic conclusions about the different teaching approaches are: 1) consistent, systematic vocabulary instruction prescribed by the teacher is significantly superior when compared with the two methods involving more student choice and prescription, and 2) improvement in comprehension increases significantly when the student is allowed to set his own goals and choose his own materials.

Neither of the above conclusions was particularly surprising to the researcher. Working on learning new words is not a pleasant activity for most students; therefore, given the chance, many students will choose not to do it. On the other hand, if a student is working on materials which he feels are helping him, which are interesting to him, and which are not too difficult yet not boringly easy, and if he is working to improve skills which he wants to improve, comprehension should increase. The teacher, try as she might, cannot make as accurate a selection of goals or materials for building comprehension because she is not the student and does not know all about his feelings, desires, and needs.

Since no significant difference was seen in the total improvement—vocabulary and comprehension scores combined—among the groups, a
further conclusion might be drawn that the teaching method does not change the total outcome of reading improvement. This hypothesis, however, still needs to be tested. This test should involve taking the gains made by a fourth group of students who have been exposed to teacher-prescribed vocabulary study assignments combined with student-prescribed comprehension building exercises and comparing those with the results obtained by an analysis of the three groups of the present study. The researcher intends to do this study during the 1974-75 school year.

Further research also needs to be done concerning the relation of speed to comprehension gains on the Nelson-Denny Test. Groups 1 and 2 had relatively close comprehension mean gains (1.29 for Group 1 and 2.09 for Group 2). They also had relatively close speed gains (121.43 words per minute for Group 1 and 122.43 words per minute for Group 2). Group 3 had a much higher mean comprehension gain (7.81) but a much lower, though not significantly different, mean speed gain (82.10 words per minute). Did Group 3 do much better in comprehension gain because they adjusted their rate to the difficulty of the material better than students in Groups 1 and 2? Or did Group 3 begin the course with a higher mean speed which would therefore have left less room for improvement? The latter question can be answered by further analysis of data. If this is shown not to be the case, then we are left with the first question which cannot be answered with the information available.

A third area for further research involves the question of the significance of the total student gains (all groups combined). A control group should be tested at the same times that the developmental
reading classes are tested so that the mean gains of students not receiving instruction can be compared to the gains of students who are receiving instruction. The use of a control group will be tried during the 1974-75 school year.

Finally, follow-up tests should be run to determine retention of reading growth a year after students have completed the developmental reading course. Whether or not this can be accomplished will depend on the flexibility of students' schedules during the school year.
BIBLIOGRAPHY


Early, Margaret J. "What Does Research in Reading Reveal--About Successful Reading Programs?" English Journal, 58 (April, 1969), 534-47.


ACKNOWLEDGEMENTS

The author is indebted to Dr. Richard Zbaracki who reviewed the manuscript and offered many helpful suggestions and much encouragement, to Dr. Anton Netusil for helping with the statistics, and to Dr. Richard Herrnstadt for advising me throughout my graduate program.

Without question, this thesis would not exist without the interest, efforts, and cooperation of the Gilbert Community School's Board of Education, Superintendent V. L. Schwenk, Principals William Schnelle and David Ashby, and the high school students. Their having given me the opportunity to experiment with the Developmental Reading course is greatly appreciated.

Finally, a very special "thank you" goes to my children Lee and Jamie for their continued love and patience while I was working on this paper, to their grandparents Vivian and Bill Graham for their help in countless ways this summer and last, to my parents Dorothy and Robert Walker for instilling a love of teaching in me, and to the friends too numerous to mention who have given me encouragement and support throughout my endeavors.
APPENDIX A: FRY'S READABILITY GRAPH
Fry's Readability Graph

APPENDIX B: SAMPLES OF ASSIGNMENT SHEETS

Group 1:

Name: ______________________________ Date Started: ____________________

Date Completed: __________________

ASSIGNMENTS:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

EVALUATION:

1. Was the work assigned interesting? ________________________________

Why or why not? ________________________________

2. Was the work assigned challenging? ________________________________

3. What would you add to or subtract from the above assignments? ______

4. Any further comments or questions? ________________________________

I have done the above assignments to the best of my ability.

Signed: __________________________
Group 2: First 9 weeks.

Name: ___________________________ Date Started: ___________________________

Date Completed: ___________________________

ASSIGNMENTS: (Fill in those assignments that you do as you do them. Be sure to choose work to do that will best help you to improve your ability to comprehend or to read faster or both. Remember: 3 RFU's = 1 Assignment, 5 SRA Rate Builder Cards = 1 Assignment.)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

EVALUATION: Answer the following questions carefully and completely.

1. Why did you choose each of the above assignments? _____________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. In what ways has your reading ability improved because of the work you did on this Assignment Sheet? ___________________________________________________________

I have done the above assignments to the best of my ability.

Signed: ___________________________
Group 2: 2nd 9 weeks.

Name: ________________________________ Started: ___________ Finished: ________ 

1. Desired goals: Fill this out as soon as you receive your assignment sheet. Write down at least two goals you hope to achieve during this assignment. (You can include such things as controlled reader rate and/or level, self-timed reading rate, RFU level, SRA rate level, tachistoscope numbers).

   Goal 1: ______________________________________________________________________
   Goal 2: ______________________________________________________________________
   Goal 3: ______________________________________________________________________
   Goal 4: ______________________________________________________________________

2. Materials used to achieve each of the above goals: Fill this part out as soon as you have set up your goals. Do not write down how many of each item you plan to do until you have done them. Wait to see how many lessons it takes you to reach your above stated goals. Then, mark beside each of your listed materials how many you have done before you turn in your assignment sheet.

   Do a total of **12** assignments (3 RFU=1 assign., 4 SRA rate builders=1 assign., 25 Tachistoscope numbers = 1 assign.)

   1) ________________________________________
   2) ________________________________________
   3) ________________________________________
   4) ________________________________________
   5) ________________________________________
   6) ________________________________________

3. Evaluation: For each of the above listed goals, write exactly how close you came to achieving that goal. For example, if your goal was to read 400 wpm on the controlled reader book 1J at 90% comprehension and you got to 430 words with 100% comprehension, write that down.

   If you did not reach your goal, also include why you think you did not reach it.
Group 2: (continued)

Goal 1: 

Goal 2: 

Goal 3: 

Goal 4: 

Group 3:

Name: ____________________  Started: ___________  Completed: ___________

1. **GOALS:** Listed below are possible goals. Choose at least 2 and no more than 4 goals to work toward during this assignment sheet. Fill in the blanks for the goals you choose and let me check them. Remember: the work you choose to do in Part II must be directly related to your attempts to achieve your goals.

1. Controlled Reader: I plan to read ____ words per minute with ____ percent comprehension in book _____.
2. Reading for Understanding: I shall go from Card # ____ to # ____ with ____ percent comprehension.
3. Self-timed reading: I shall try to read ____ wpm with ____ comprehension.
4. I shall show that I have learned ____ new words by taking a test on them.
5. Tachistoscope numbers: I hope to write down the first ____ numbers times in a row.
6. Skimmer/Scanner: I shall try to do one lesson with all parts average or (____ levels above average).
7. SRA Rate Builders: I plan to go from ____ color level to ____ color with ____ percent comprehension.
8. Skill Builders: I shall work on box level ____ to achieve scores of at least ____ percent comprehension.
9. Other—you fill it out: __________________________

II. **ASSIGNMENTS** done to reach the above goals: You must do a total of 12 assignments. Fill this in as you do your assignments.

1. ____ Controlled reading exercises.
2. ____ RFU cards (3 cards=1 assignment; if you are above level 80, 2 cards=1 assignment).
3. ____ Self-timed Reading exercises.
   ______ Reading Efficiencies Book _____.
   ______ SRA Better Reading Book.
4. Word clues book _____.
5. ____ Tachistoscope numbers (25=1 assignment).
6. ____ Skimmer/Scanner lessons.
7. ____ SRA Rate Builder Assignments (4 cards=1 assignment).
8. ____ Skill Builders.
9. ____
Group 3: (continued)

III. EVALUATION: Fill this in after you have completed your assignment sheet.

1. I now can read ____ wpm with ____ percent comprehension in book ____ controlled reader.
2. The last RFU card I did was number ____ with ____ percent comprehension.
3. I read ____ words per minute in book ____ with ____ percent comprehension.
4. I received a score of ____ on my vocabulary test.
5. I saw and wrote down ____ numbers in a row ____ times.
6. My best skimmer/scanner scores were: ____________________________
7. I am now working on color ____; my comprehension on the last card done was ____ percent.
8. I completed skill builder cards ____ with comprehension of ____ percent.
9. ____________________________

In what ways has your reading improved? ____________________________
________________________________________________Where do you want to go from here?

I did the above work to the best of my ability.

Signed: __________________
APPENDIX C: EXAMPLE OF VOCABULARY TESTS

Directions: Using each of the words listed below once, fill in the blanks in the following "story" so that it makes sense.

Words: Abolition Avert Clerical Convey Compensation Congregation Audible Arbitrary Administered Alcoves Aroma Compelled Countenances

The Story:

Years ago, Black people were dealt with in an__________ way. They were__________ to work and could not allow anger to show on their__________. Their only__________ for their work was being allowed to belong to a Christian__________. There, in their churches that were no more than__________, the healing words of the Bible would be__________ by the__________ minister. He would__________ the idea that their prayers were__________ to God and therefore would one day soon be answered. Then they would not have to__________ their eyes when they saw a white man or smell the__________ of the white man's food while they themselves were starving. In fact, God would, according to the minister,__________ all difference in skin colors with a__________ move. Then came the__________ of slavery. God's promises had supposedly been kept. In reality, were they?

Extra Credit: What does the root word "audio" mean?__________
(audible, auditory, audio/visual materials)
APPENDIX D: SHORT STORY ASSIGNMENT POSSIBILITIES

I. Comprehension: Characterization
   A. Choose one of the characters in the story you read.
      1. Tell how he felt at the beginning of the story. What made him feel this way?
      2. How did he feel in the middle of the story? Why?
      3. How did he feel in the end of the story? Why?

II. Comprehension: Finding the main idea and arranging sequence
   A. Read a story that you haven't read before.
   B. Write 4-10 sentences which tell the most important things which happened in the story.
   C. Arrange your sentences in the order that the events actually occurred.
   D. Which of the events was most important? Why?

III. Comprehension: Interpretation through art
    A. Choose something important that happened in the story.
    B. Use an art medium to tell about the event (possibly, paint, pencil sketching, a short film, a puppet show).

IV. Comprehension: Figurative language
    A. Authors have a way of helping us "see" things more clearly. They use figurative language (similes) such as: As clear as a bell, as happy as a warthog, as smart as a wooden fence.
    B. Skim several stories for figurative speech. List each example you find and identify where you found it (which book, story, and page number).

V. Comprehension: Making generalizations
    A. Read at least three stories about famous Americans.
    B. Answer the following questions:
1. What was there about each man or woman you read about that helped to make him or her famous?

2. Can you name one characteristic which all of these individuals had in common?

3. What characteristics did play a major part in helping each person achieve the success he did?

4. What are some characteristics which you think would help to make a person famous or successful? Of these, choose the most important characteristics.

VI. Comprehension: Reference skills

A. Read an informational article or story. What is the subject of this article or story?

B. Look in the room library or in the school library for other books or stories on this same subject.

C. Write down the title of each book and the author. Then give the number of the page where you found more information on the subject. (Students who have already taken Composition I: use standard footnote style for recording the necessary information).

VII. Comprehension: Predicting outcomes

A. Read the first few paragraphs of a story.

B. Before you finish reading the story, write who you think the main character is.

C. Tell what kind of person you think he is.

D. Tell what you think he will do.

E. Finish reading the story.

F. Draw a line through each of your statements which was incorrect.