San Fernando Valley State College

AN EVALUATION OF A SECONDARY
SCHOOL READING PROGRAM: 1965-1970

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Arts in
EDUCATION

by

Leonard A. Taylor

June, 1971
The thesis of Leonard A. Taylor is approved:

Committee Chairman

San Fernando Valley State College
June, 1971
ACKNOWLEDGMENT

The author is indebted to Robert Joice, Chairman of the Ventura High School English Department, whose suggestion led to this study.

Also acknowledged is the special assistance freely given by Principal Edward Nemson, Vice-Principal William McKinney, who graciously opened the reading files and his door to me, Bob Rolens of the District Office, and very especially Dr. Louise Grindstaff and the Reading Committee of San Fernando Valley State College.

Most grateful appreciation is expressed to my wife, Mary, for her valued advice, help, and substantial contribution.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>iii</td>
</tr>
<tr>
<td>Abstract</td>
<td>v</td>
</tr>
<tr>
<td><strong>CHAPTER I.</strong></td>
<td></td>
</tr>
<tr>
<td>Background of study</td>
<td>1</td>
</tr>
<tr>
<td><strong>CHAPTER II.</strong></td>
<td></td>
</tr>
<tr>
<td>Review of the Literature</td>
<td>16</td>
</tr>
<tr>
<td><strong>CHAPTER III.</strong></td>
<td></td>
</tr>
<tr>
<td>Analysis and Discussion</td>
<td>25</td>
</tr>
<tr>
<td>Tables</td>
<td></td>
</tr>
<tr>
<td><strong>CHAPTER IV.</strong></td>
<td></td>
</tr>
<tr>
<td>Recommendations and Discussion</td>
<td>50</td>
</tr>
<tr>
<td><strong>CHAPTER V.</strong></td>
<td></td>
</tr>
<tr>
<td>Summary and Conclusions</td>
<td>82</td>
</tr>
<tr>
<td>References</td>
<td>88</td>
</tr>
</tbody>
</table>
Chapter I
THE PROBLEM

Background. With the quantity of effort being expended on reading by teachers and researchers, it is vitally important that evaluations be made to test the effectiveness of reading programs. In 1963, research reached an all time high (Robinson, 1964); yet the literature included little in the way of reading program evaluations.

During the past ten years there has been a strong upswing in secondary school reading programs. The effectiveness of these relatively recent programs has not, however, been challenged seriously by research. There exists a paucity of significant studies at the secondary level in reading.

The high school has had to wrestle with the belief of the community that the responsibility for teaching reading belongs solely to the elementary school. Karlin (1969) has pointed out that a considerable portion of the high school population does not do as well as it should. One New York school system studying the reading status of its freshmen and sophomores found that 40% were reading below their ability. It was estimated that as many as 25% of all high school students lacked the reading skills needed to read books with the comprehension expected of them.
A study of students in Kentucky (Ramsey, 1962) showed that eighth grade students achieved reading levels significantly below grade norms.

One of the earliest and most telling studies (Penty, 1956) revealed that of the students whose reading was in the lowest quarter (many Ventura incoming freshmen qualify in this regard), close to 50% left school before the twelfth grade. When these dropouts were interviewed six years later, they gave poor reading as the cause of their problem.

PURPOSE OF THE STUDY

The purpose of this study was to analyze and evaluate the effectiveness of a reading program by gathering and assembling statistical data for a total of 781 students for a period from 1965 to 1970. This investigation of five years of reading at Ventura centered on uncovering information to answer basic questions in the following problem areas:

1. Basic Reading group versus Reading Improvement group. In the Ventura program terminology, the Basic Reader is the student retarded two or more grade placements below expectancy. The Reading Improvement student is reading at less than two years below, and up to expectancy. The problem presented was in determining which of the two groups, if any, showed the greater overall improvement. Would the results support McMenemy (1967), whose study showed the higher IQ groups (Reading
Improvement) making the greater mean gains? Or would they confirm Durrell & Martin's (1967) study showing absolutely no difference in mean reading improvement for students scoring both above and below the pre-test median?

2. Performance by grade in school. The study compared the performances of reading students at the different grade levels -- sophomore, junior, and senior. Further comparison was made relating to grade performance in both Basic Reading and Reading Improvement. The issues here resolved around these basic questions: Was any one grade level performing consistently better than any other? How might this effect the priority system of selection?

3. Vocabulary versus comprehension results. Was the vocabulary development portion of the program keeping pace with the comprehension?

4. Boys versus girls. Was the program meeting the reading needs of both sexes? Were there differences in performance? How could such differences be accounted for?

5. Semester versus year results. Whether one semester of remediation was as good as two.

6. Selection of students into the program. Was the priority system of selection both adequate and equitable? What methods of identifying potential reading students were available? Once identified, how could the student be accurately deployed into the appropriate classification? Was the student a Basic Reader, Reading Improvement, or Power Reader? Would the program operate more
effectively on a voluntary or compulsory basis, or a combination of the two?

DEFINITION OF TERMS

1. Power Reading student. Reading at expectancy with a minimum of reading deficiencies.

2. Reading Improvement student. Reading two years or less below expectancy.

3. Basic Reading student. Reading two or more grade placements below expectancy. Carter & McGinnis (1970), as well as other experts, use the term "basic reader," disabled reader," remedial reader," and "maladjusted reader" interchangeably to generally apply to:

   a. One whose scores on a reading test are two or more years below his grade placement.

   b. One who is reading significantly below his expected level as determined by an individual test of intelligence, such as the Stanford-Binet Intelligence Scale or the Wechsler Intelligence Scale for Children.

   c. One who scores well on a survey test of reading ability, but whose achievement in certain reading skills is quite inadequate and imposes a penalty.

   d. One who shows average or better than average performance on a reading test and yet, because of tension, anxiety, frustration, or
personality defects, is unable to utilize the reading skills he possesses.
e. One who is a nonreader with causal factors known or unknown.

4. Stanine. A unit that divides the normal population in nine groups. Except for stanines one and nine, the groups are spaced in half-standard deviations, with the mean as mid-stanine five.

PHILOSOPHY OF VENTURA READING PROGRAM

The program at Ventura adopted the following statement of philosophy after much departmental debate and discussion (Ventura High School Reading Program Manual, 1965):

A. We hold the fundamental belief that reading is a basic tool for the education of each individual. We do not envision that the ability to read better will be an aid only to students in English classes. We believe that students who have improved their reading skills will be capable of a better performance in any given field or in any specific class.

B. We hold that reading is a segment of the cycle of communication including speech, listening and writing, which is necessary before satisfactory adjustment to modern society can be accomplished.

C. We hold that today's world is a reading world. Reading highway traffic signs is as important
as reading a technical journal. Reading is essential in every student's vocational, civic, and personal life. Adequacy in communicative ability is becoming increasingly necessary. We hope to motivate students to enjoy reading by teaching them how to read.

D. Acquiring mature skills in reading also necessitates knowledgeable coaching, supervised practice, and purposeful application.

E. All young people, not just those with serious reading deficiencies, ought to be given teaching assistance for the bettering of their reading competencies.

OBJECTIVES OF THE PROGRAM

1. To increase individual reading skills to the end of better communication within the every day contacts of our society.

2. To assist the student apply reading skills to all subject areas (for example: mathematics, social studies and industrial arts).

3. To include the development of mature concepts of reading; phrase reading rather than sound and word reading, reading for ideas, information and concepts.

4. To encourage the habit of reading for pleasure.

5. To build a functional vocabulary.

6. To understand how to read current, tabular and
periodic literature.
7. To effect positive changes in student attitude.
8. To develop an ability to select reading material appropriate to his own reading ability.
9. To improve his reading speed.
10. To stimulate an interest in reading good literature and establish its acceptance as a part of adult life.
11. To improve vocabulary and word attack techniques.

DESCRIPTION OF PROCEDURES OF VENTURA PROGRAM

The stated philosophy and objectives of the Ventura High School reading program (hereafter referred to as the Ventura program) was intended to meet the needs of students performing at all levels of accomplishment. Therefore, three separate types of courses were outlined:

1. Instruction in Basic Reading.
2. Instruction in Reading Improvement.
3. Instruction in Power Reading.

Basic Reading classes were planned for those individuals retarded two or more grade placements below their expectancy. The course provided for diagnosis of reading problems and a sequential development of basic skills. The sequence included an initial orientation to such tools of reading as the library, the dictionary, the use of mechanical reading aids and the techniques of the proper use of a book. Word attack, vocabulary, grammar, comprehension of the central thought, and the significance of
Reading Improvement classes were planned for students of average ability and above who were reading two years and less below expectancy. The course was concerned with the items emphasized in the basic class and extending beyond that point to give attention to detail, exact meaning in context, and cause and effect in the reading materials.

The Power Reading classes were planned for those students reading essentially at their expectancy, but who wished to improve their reading skills, speed, and comprehension. The program provided individuals the opportunity to satisfy specific needs generally, or in given subject areas such as mathematics, science, industrial arts, and literature. The experience in the Power Reading class was designed to teach the student to relate his reading speed to the demands of a given volume of assigned material and the purpose for reading.

Class size. Maximum class sizes scheduled were Basic Reading, 15; Reading Improvement, 20; and Power Reading, 25.

Credit. All three courses were to carry the normal ten units of credit for the successful completion of a year's work (five units for a semester). Either Basic Reading or Reading Improvement could be substituted for either tenth, eleventh, or twelfth grade General English to satisfy the graduation requirement. Such a substitution
could be made only once during the three year high school period. Power Reading was to be considered an elective.

**Instructional technique.** Individualized instruction was emphasized as much as possible. After taking the Diagnostic Reading Test and other informal diagnostic evaluations (such as the SRA test to determine starting levels in the multi-level reading kits), the student's program would be assembled according to his unique needs. It would be conceivable that in a class of 20, each of the students would be working in a different material area, at a different level of achievement, and with a different degree of emphasis peculiar to his individual needs.

**Transfer system.** Provisions were made to temporarily transfer students from their English classes into the reading laboratory for short term remediation. In many cases the treatment would not exceed five weeks. The student would then be returned to his English class with full credit for the time away.

**Laboratory content.** Two reading laboratories were set up. The laboratories were adjacent to one another and connected by a door so as to facilitate the sharing of major equipment. Installed in each of the laboratories were ten carrels for individual study and desks for full class instruction. The major materials used included:

**HARDWARE**

1. Controlled Readers.
2. Tach-X.
3. Flash-X.
4. Craig Reader.
5. Rateometer.
6. SRA Reading Accelerator.
7. Shadowscope.
8. Purdue Reading Films.

SOFTWARE
1. SRA Power and Rate Builders.
2. SRA Reading for Understanding.
3. Reader's Digest Skillbuilders.
4. McCall-Crabb booklets.
5. EDL Study Skills Library.
6. EDL Listen and Read Tapes.
8. How to Become a Better Reader, Witty.
9. How to Improve Your Reading, Witty.
10. Student Record Books and Program Charts.

Pre-test and posttest. The procedure has been to give each student entering the program in September a pretest form of the Diagnostic Reading Test (Committee on Diagnostic Reading Tests, 1956). Major improvement would be determined by the subsequent posttest. This would usually be administered in January to measure one semester progress, and in June to measure the gains of one complete year.

The Ventura program alternated in using at least four or five of the eight forms offered in the Survey Section
of the Diagnostic Reading Test. The Diagnostic Reading Test Committee maintains that test questions for the Survey Section are chosen in such a manner that the average difficulty and validity of them are nearly the same as possible in forms A through H.

This study focussed on three score areas: vocabulary, comprehension, and total score. The Kuder-Richardson formula 21 showed the reliability for these scores to be: vocabulary, .89; comprehension, .83; and total score, .91.

By and large, the main thrust of this evaluation was to ascertain whether the reading program at Ventura was effective over the past five years in improving the reading skills of those students passing through it. Performance in each particular year was compared and analyzed in the following areas: grade levels 10, 11 or 12; boys and girls; Basic Readers and Reading Improvement; vocabulary, comprehension or total; and all of the combinations thereof.

Instructional time block. Each student in the reading program was scheduled for instruction five times a week for a 54 minute block of time. This was similar to any other regularly scheduled course of study.

METHOD OF SELECTION

One of the major concerns was in devising a selection procedure which would most effectively implement the philosophy and objectives of the program.

The data processing service of the Ventura Unified
School District identified and categorized all potential reading students. Each ninth grade student, prior to being assigned to one of the two high schools in Ventura, was carefully screened for reading deficiencies. The basic criterion for admittance into the program was whether or not the student was reading up to expectancy. If the student were not reading up to expectancy, he would be classified according to a retardation index and given a priority classification.

The highest priority belongs to the Basic Reader who is two or more years below expectancy with an IQ not lower than 90. The rationale here, as implied in Part C of the philosophy, is that the most seriously disabled readers be offered first preference. A further assumption is that an IQ of under 90 would indicate a "slow learner" who would not profit as readily from reading instruction.

The retardation index was arrived at by relating the student's score on the Sequential Tests of Educational Progress: Reading (STEP) with IQ performance. The STEP reading achievement instrument, discarded in 1969 by state mandate in favor of the Comprehension Test of Basic Skills (CTBS), was usually given in the eighth grade. By that time the student would have been exposed to one, or all, of three different IQ measurements used by the Ventura Unified School District: the Lorge-Thorndike Intelligence Test, Otis Intelligence Test, and California Test of Mental Maturity. The student was given credit for
the highest mental measurement test recorded.

The precise method consisted of converting the raw score data from both the reading achievement and mental measurement tests into percentile scores. The percentiles were then converted into stanine scores. Finally, the stanines were compared, with the disparity representing the expectancy. For example, a student scoring at the 39th percentile in the CTMM would fall in stanine 4. Were this student to score at the 10th percentile on the STEP or CTBS, he would fall in stanine 2. This two stanine differential between ability achievement would indicate a student reading two years below expectancy, and thus in the Reading Improvement Classification.

Counselor orientation. Each high school counselor was supplied with the reading retardation index for every incoming freshman. In the first three years of the program, each counselor was invited to attend a reading orientation activity. This orientation was annually given at the end of the school year to all sophomores and juniors, so that they might be motivated to take reading the following year should they qualify according to the retardation index.

The counselors were invited to the orientation for a two-fold purpose. Firstly, in being better acquainted with the goals, purposes, student needs, and overall program operation, they could counter the poor reputation that reading programs generally had at the secondary level. Secondly, with a total picture of the program, the
counselors could direct incoming freshmen into the program, thus insuring a continuity. During the past two years the orientation program has, due to apparent apathy, phased itself out.

LIMITATIONS OF THE STUDY

When undertaking this research evaluation it was clear that the irrepressible variables confronting all studies would be ever present and calling out for caution. The following represent specific limitations of this evaluation:

1. This study was unable to take into account any gains which may have occurred even if the student were not in the program.

2. The phenomenon of "regression to the mean." Here, persons scoring low on the initial test tend to move upward on the posttest, while students scoring high on the first test tend to score lower on the second.

3. Fluctuations in pre- to posttest scores as a result of interform differences in tests (even though the forms are purported to be equated).

4. Test boredom and test fatigue.

5. Slower reader handicapped by the timed test scored on number of correct responses.

6. Multiple choice know-how rather than increased knowledge.

7. The statistical limitations of recording data in
percentile terms.

8. Teacher personality variable (over the five year period, five teachers have been involved in the Ventura program.)

SUMMARY

This study was proposed as a means of adding to the literature an evaluation and analysis of a reading program at the secondary level. From the data collected and interpreted in this post hoc study, it was hoped that some valid inferences might be drawn which would provide more intelligent direction for the Ventura reading program.

The specific areas of investigation centered on:

1. Basic Reading versus Reading Improvement.
2. Performance by grade in school.
3. Vocabulary versus comprehension results.
4. Boys versus girls.
5. Semester versus year results.
6. Selection of students into the program.

Data was assembled by collecting the pre- posttest results of 781 Ventura High School reading students who completed either a semester or year in the program. The investigation covered a period of five years from 1965 to 1970.
Chapter II

REVIEW OF THE LITERATURE

Overview. Two general surveys of reading programs at the secondary level will be considered before examining a number of specific studies in the literature. This overview will tend to establish an acquaintance with the general condition of upper level reading programs.

General survey of secondary school reading. In a recent study made to ascertain the state and characteristics of secondary level reading programs in California (Graham, 1969), it was revealed that over 75% of the programs were less than five years old. Replies to a questionnaire showed that the most common type of program (82%) consisted of remedial and basic instruction offering full credit and meeting five days a week. Students stayed as long as necessary to correct their disability or upgrade particular skills.

Of the 355 California schools polled, 78% had reading programs, but only one-third claimed to have a formal course of study for reading. The term "reading laboratory" was used by 45% of the schools; some 18% used reading center; and 3% used the term reading clinic to describe basically the same operation.

Other interesting statistics indicated that mental ability was used as a criterion for entrance into the program by 50% of the schools. The most common IQ tests were the CTMM and the Lorge-Thorndike, essentially verbal.
and language oriented.

Multi-level kits, such as the SRA Reading Laboratory, were used in 75% of the programs. Mechanical devices were common to the majority of programs. The Controlled Reader was used by 84%; the tachistoscope by 72%; tape recorders by 80% and reading films by 45%.

Only 25% of the schools with reading programs reported follow-up studies of students. Three schools mentioned an effort at longitudinal studies. In those reading programs which were evaluated, the gains made were based upon the results of standardized reading achievement tests. A total of 71% of the schools indicated that their reading efforts were successful.

In a similarly conceived survey of 246 college reading programs (Geerlofs & Kling, 1968), a questionnaire revealed the following information.

1. In a sharp shift of emphasis from the high school teaching technique, books were emphasized considerably more than machines, as a result of research which tended to minimize the value of machine hardware.

2. There was a movement toward more individualized instruction, multiplicity of materials, and diversity of programs.

3. Although espousing a move toward more individualization, the college programs were generally self-critical in admitting that too often the
same materials and methods were used with both good and poor readers.

4. Replies to the questionnaire called for better diagnostic test instruments. The most prominent tests used were:

a. Nelson-Denny Diagnostic Reading Test...30.9%
b. Diagnostic Reading Test..............24.3%
c. Cooperative Reading Test...............18.3%
d. Iowa Reading Test.....................15.5%
e. California Reading Test............... 6.6%

The percentage of mechanical devices used was considerably less than the high school survey. Only 41% of the colleges surveyed used controlled readers; a negligible 28% used tachistoscopes, and 31% used reading accelerators.

As in the high school survey, the SRA Laboratory ranked first among the multi-level kits.

If these two surveys represent any kind of cross-section, then many secondary reading programs are quite similar in principle and design. Although techniques and emphasis of instruction differed, as revealed in the disparity of machine usage at the high school and college levels, the materials, general purposes and implementation seemed much alike.

Specific studies. The literature disclosed many reading programs reporting immediate post remedial gains, but few long term gains. Buerger (1968) lists a number of studies showing immediate post remedial results of five
months average test gain after treatment. However, the long term results showed a lack of significant difference between control and experimental groups. One such study consisted of a remedial sample given a mean of 110-115 hours of instruction. The remainder of the school population served as the non-remedial sample. In all instances, immediately after the treatment period, gains were significant at .01 level. Conversely, there were no significant long term gains in either vocabulary or reading comprehension.

Additional information from the study showed that no significant gains were registered in English and social studies achievement as indicated by letter grade. This tended to support Robinson's review of 100 studies, in which only one study showed significant gains in terms of academic achievement.

To determine the effects of long term results from a reading program, 60 pupils were studied for one and two years after remedial treatment (Collins, 1961). During the five months of remedial treatment, both groups scored significant gains over an untreated control group. However, at the end of one and two year periods there was no significant difference between the treated and untreated groups. The author concluded that the long term effects of treatment were negligible.

Another investigation involved a ninth grade reading program in which all entering ninth grade freshmen were
given two semesters of reading (McDonald & Nacke, 1969). Based upon tests, the students were assigned to one of four levels of instruction:

1. accelerated (high reading potential)
2. developmental (slightly below potential)
3. corrective (considerably below)
4. clinical (requiring case study because of functional disorders).

At the end of two years, 1,036 ninth graders had completed the two semester program. To analyze the mean gain differential from pre- to posttest, t tests were computed. The results showed that the mean gains made by the total group during the first year of the program were statistically significant the first semester, but not the second. The gains made from September to January were consistently greater than the mean gains from January to May. The authors concluded that overall improvement seemed to have been greater in the first than in the second semester.

The mean gain in comprehension was significant for both years except for the clinical level.

Gains made by the corrective group in comprehension were always significant the first semester, but not always in the second.

In another research finding, Pescosolido (1962) attempted to identify and appraise the certain procedures which had a high relationship to growth in reading. He concluded that the systematic and meaningful development
of vocabulary was essential. This included the employment of a variety of techniques and instructional materials.

Similarly, another study (Jackson & Dizney, 1963) reported significant gains in vocabulary for students receiving direct instruction over those not receiving instruction. Also Holmes and Singer (1962) found that vocabulary played a very important role in accounting for high school students' power in reading.

In Crump's (1965) study of vocabulary instruction, one experimental group was given one semester of direct instruction in vocabulary development. The control group was given no formal instruction. A pre- and posttest of different forms of the Diagnostic Reading sub-test revealed no significant differences between the groups in vocabulary growth.

The result of a study by Jackson & Dizney (1963) also recorded no statistical difference between an experimental and control group of twelfth graders. The experimental group was assigned to intensive vocabulary instruction in the Harbrace Vocabulary Workbook for 35 class periods of 50 minutes each. The control group spent time in a regular program of instruction. An interesting sidelight to the study found the control group making greater gains in speed. It was speculated by the authors that the smaller gains in speed recorded by the experimental group was due to overemphasis in vocabulary training, resulting in over-attention to word analysis and contextual aids.
Summers (1964) reported a study of 122 sophomores, juniors and seniors from a high socio-economic residential area. The subjects' average scores for vocabulary and total comprehension fell above the 70th percentile on a standardized test. They were scheduled into the reading laboratory for a six week block of time taken from regular English classes. A t test was used to analyze the significance of mean gain from pre- to posttest. Significant gains at the .01 level were achieved all across the board. In this controlled experiment consisting of 460 seventh graders and 424 eighth graders, the experimental group scored higher in all reading areas. The instruction enabled boys to surpass girls in reading achievement especially at the higher reading and intellectual levels.

Marquis (1963) describes a developmental reading program in which students reported to the laboratory once a week for a maximum of 30 sessions. Analysis of pre- to posttest results on the Cooperative Reading Comprehension Test showed an average percentile rating gain of eight for seniors, three for juniors, and ten for sophomores.

Less spectacular results were reported from a junior high school developmental reading program evaluation (Weppner, 1965). An experimental and control group were administered the Iowa Silent Reading Test and the California Achievement Test to determine whether the experimental group would achieve significant reading gains after an intensive period of specialized reading
instruction. Results of the posttest revealed no statistically significant differences in reading ability in the experimental group.

Koziey (1965) observed that most of the reading improvement programs reported at the secondary level succeeded in increasing reading rate substantially, with little effect on comprehension. As a corollary to this study, this researcher has discovered in the literature the indictment that machine oriented programs improve reading rates but not comprehension.

Summary. The results of the studies reviewed in this chapter are indicative of the entire field of reading at the secondary level. That is, what comparatively few studies there are, reflect a great deal of variety and inconsistency in their findings.

Graham's survey of secondary school reading programs in California seems to indicate that a great deal of similarity exists in the design, function, purpose, and implementation of these remedial programs.

That these and similar programs may be ineffective is the substance of Square & Applebee's (1966) visitations to 158 selected high schools for the purpose of observing and evaluating reading programs. They concluded that, "Reading programs appeared to lack soundness, purpose, organization and impact. Slow learners and non-college-bound students seldom received enough attention."

It was hoped that the Ventura evaluations could
provide some additional information and shed further light on some of the mixed findings in the field.
Chapter III
ANALYSIS AND DISCUSSION

Description of Methodology. This study evaluated the progress of 781 reading students. Of this number, 622 completed a full year in the program, while the remaining 159 were measured on their one semester performance.

Improvement was measured by comparing each student's pre- and posttest percentile scores on the Diagnostic Reading Test. Each student was administered a pre-test form in September. A posttest form was given in January to measure one semester progress, and in June (for those taking the year program) to measure the gains of a complete year.

The study focused on the results in three major areas: vocabulary, comprehension, and total score.

Statistical significance. Although circumstances precluded using a statistical test design in this study, the Committee on Diagnostic Reading Tests considers a mean ten percentile point gain differential equivalent to one-half standard deviation and therefore significant.

Overall performance. A compilation of the data shown in Tables 2, 3 and 4 revealed what appeared to be significant reading gains in almost all areas for all years. A five-year mean of the mean for the 781 students showed an increase of 16 percentile points in vocabulary,
14 in comprehension, and 15 in total ability.

The highest gain was attained in 1968-69 with a mean percentile advance of 23 points in vocabulary, 15 in comprehension, and 20 in total ability. On the other hand, the smallest gain was for the semester 1970/71 with an 11 for vocabulary, 15 for comprehension, and 12 for total.


This trend reversed itself in 1969/70 with the mean percentile gain in comprehension exceeding that of vocabulary by 15 to 12. This advantage was maintained into the first semester of 1970 with the differential being 15 to 11.

During the 1965-66 year when grouping was used, the total reading ability mean percentile gain was 14 points. Upon the introduction of a completely individualized approach the following year, the subsequent yearly gains were, 17, 15, and a high of 20 in 1968-69 in overall reading ability. In 1969-70 and 1970-71 the gains dipped to 13 and 12, respectively. The 1970-71 score represented only one semester and improvement beyond the 12 percentile point gain might be expected.

**Basic Reading Group versus Reading Improvement Group.** Since 1965-66 as the Quantitative Sample in Table 4 illustrates, 344 Basic Readers and 437 Reading Improvement
Readers have passed through the program. Of this total, 91 Basic Readers and 68 Reading Improvement Readers have been evaluated for the one semester period of 1970-71.

Over the five-year period, the Reading Improvement Readers have consistently outperformed the Basic Readers in all of the measurement areas -- vocabulary, comprehension, and total. Only in the first year, 1965-66, did the Basic Readers record a higher score in any category. In that year of grouping, the Basic Readers achieved a mean percentile gain in vocabulary of 21 points as compared to 18 for the Reading Improvement Readers. This vocabulary gain, however, was not transferred to the area of comprehension. There, the Basic Readers recorded a five-year low of only 10 percentile points gain to an equally low 13 point gain for the Reading Improvement Readers.

With the switch in 1966-67 to a completely individualized program, the Basic Readers achieved a significantly better mean percentile score of 14 in comprehension, but dropped off considerably in vocabulary to an increase of only 13 points. That same year the Reading Improvement Readers scored a mean gain of 27 points in vocabulary, and a five-year high of 19 in comprehension.

It is interesting to note that in the following year, 1967-68, the second year of the individualized instruction, the Reading Improvement Readers were unable to sustain their substantial gains and faltered to a mean gain of only 12 points in vocabulary and 12 in comprehension.
The Basic Readers also fell off considerably to gains of 11 and 10, respectively.

The convincing superiority of the Reading Improvement group over the Basic Reader group is clearly shown in the overall five-year average. Here the former scored an average percentile gain of 19 points in vocabulary, 16 in comprehension, and 18 in total reading ability. For the same period of time the Basic Readers scored a consistent, but significantly smaller gain of 12 percentile points each in vocabulary, comprehension, and total.

The first semester evaluation of 1970-71 showed that for the first time the Basic Readers had gained as appreciably as the Reading Improvement Readers. The mean percentile results indicated a significant increase of 15 percentile points for the Basic Readers and an identical 15 point advance for the Reading Improvement Readers. A follow-up of the second semester results will be necessary to establish whether the Basic Readers will be able to maintain the parity over a year's instruction.

Grade levels 10, 11, and 12. All three grade levels, sophomore, junior and senior, achieved significant gains in vocabulary, comprehension, and total score. None of the grade levels scored appreciably higher than the others, except in vocabulary at the twelfth grade. Over the five-year period a sample of 284 twelfth graders scored a mean percentile gain of almost 18 points. This was much greater than the 14 point gain achieved by both the tenth
and eleventh graders over the same period.

Despite the marked vocabulary gain, the twelfth grade level was unable to show a similar comprehension increase over the two levels. As a matter of fact, the sophomore sample of 313 recorded a slightly higher percentile improvement in comprehension of 15 points as compared to 14 for both the seniors and juniors.

A total of 284 twelfth grade boys and girls scored higher gains in vocabulary than their tenth and eleventh grade counterparts. The senior girls achieved an average percentile gain of 17 points to 12 for the juniors and 13 for the sophomores. Senior boys gained 18 points while junior and sophomore boys scored 16 and 14, respectively.

All twelfth graders combined recorded an average percentile advance of almost 18 points. A total of 184 juniors and 313 sophomores scored an identical 14 point gain in vocabulary over the five-year period.

In overall reading ability the seniors scored a mean gain of 16 percentile points to 13 each for the sophomores and juniors.

**Boys versus girls.** Although both boys and girls made large gains in all reading areas, neither sex group achieved significant gains over the other. Both groups scored mean percentile gains of 14 points in comprehension over the five-year period. In vocabulary the boys achieved an edge over the girls, 16 percentile points to 15. Due to the better vocabulary performance, the boys
recorded a total reading ability score of 16 as compared to the girls' 14.

One semester versus full year. The basic implication here was the question; "Is one semester of reading as good as two?" This was a relevant question at Ventura since students had the option of selecting either one semester or a full year of reading. Consequently, were it established that certain groups of students approached their capacity levels in one semester and leveled off the next, then they could be counseled into a single semester of instruction.

By the same token, if on a continuum gain chart it were established that a certain group manifested second semester gains on top of the first, they obviously would be counseled to accept a full year of reading. The overriding problem to be considered was what constituted the optimum duration of instruction.

Although this study had not attempted to directly grapple with this perplexing question, some valuable information was gleaned by comparing the first semester totals of 1970-71 with the five previous yearly totals.

Unless the 1970-71 first semester sample of 159 students was completely atypical, then the comparison revealed some interesting statistics. Although the yearly mean percentile gain for all students in comprehension had been 14 points, the first semester group of 1970-71 achieved a 15 point gain in half the time. A further
breakdown revealed the Basic Readers recording a mean percentile gain of 15 points in comprehension during the first semester, while in the previous years the Basic Readers were able to average only an 11 point gain for the entire year's efforts.

While the 1970-71 one semester performance for the total group had surprisingly exceeded the average yearly gain in comprehension, the vocabulary results were not so gratifying. The average percentile gains for all students in vocabulary over the five-year period had been 17 percentile points. This compared with only an 11 point increment for the one semester group.

The individual group breakdowns for 1970-71 revealed only three groups scoring higher than the 11 point overall mean gain. Both the twelfth grade girls and the Reading Improvement readers showed 12 point increases, while the tenth grade girls registered a 14 point gain. The 12 point gains of the first two groups fell considerably below the yearly average of 18 and 20 for the twelfth-grade girls and Reading Improvement readers, respectively. The tenth-grade girls, surpassing in only one semester the yearly average of their counterparts by 14-13, were the only group in vocabulary to better the yearly average.

In total reading ability, combining both vocabulary and comprehension, only three of the one semester groups were able to equal the scores of the full year groups. The Basic Readers achieved a one semester increase of 12
percentile points to an identical 12 for the average yearly group of Basic Readers.

The one semester tenth-grade girls and tenth-grade boys recorded advances of 12 and 14 points to similar 12 and 14 point gains for their counterparts.

Other one semester groups in 1970-71 were able to approximate and even exceed full year group gains in comprehension, but because of the appreciably smaller one semester vocabulary increases, the total ability scores almost always favored the year groups.

EVALUATION OF DATA

Overall performance. It is difficult to account for the proportionately greater vocabulary gains recorded in four of the five years. The program has always stressed a balanced approach to instruction, being cognizant of the importance of the comprehension-vocabulary duality. For some unknown reason, not yet identified, the trend reversed itself in 1969-70 and the first semester of 1970-71 with comprehension gains exceeding vocabulary gains. Further study will be needed to explain this.

It must be remembered that the smallest gain recorded, in 1970-71, represented only a one semester score. The possibility of further growth in the second semester must be considered.

On the other hand, the highest gain recorded, in 1968-69, must be tempered by the realization that the sample of 79 students, as indicated in Table 5, was the
smallest recorded and perhaps led to an inflated score.

Using the criterion of a mean 10 percentile point gain as being significant, in no year did the total group fail to significantly improve their reading skills in all of the areas tested: vocabulary, comprehension, and total score.

**Basic Reading versus Reading Improvement.** After one year of grouping (students were assigned to groups according to their specific reading deficiencies. They moved as a group from one set of materials to another), the program was switched in 1966-67 to a completely individualized operation. The spectacular improvement that first year of the transition was not to be repeated. Whether the Hawthorne, or placebo, effect was responsible for the outstanding gains made the first year of individualized instruction is problematical. However, in only one subsequent year (1966-67) was the Reading Improvement group able to score higher in total ability gains. The Basic group was never able to exceed its gain performance of that 1966-67 year.

One should not be surprised that the very substantial superiority of the Reading Improvement groups over that of the Basic Readers. It seems that the better reader initially is able to progress farther and faster. This explanation is supported by findings of a number of studies. Austin & Morrison (1963) concluded that, "As one would expect, mean gains in achievement tended to be
positively associated with initial reading level. Students with high initial achievement showed greater mean growth than those with average initial achievement. The mean growth shown by the latter, in turn, was greater than that of students with low initial achievement."

Other researchers felt that the greater the IQ level the more substantial would be the reading gain. This is only another way of saying the better reader would profit more since, in many cases, the IQ itself was a reading test and revealed the better reader, not necessarily the more intellectually endowed. McMenemy (1967) followed a group of disabled readers two years. Their IQ groupings spanned from a low of 80 to a high of 115. The results showed that the children in the higher IQ groups made the greatest gains for both years.

In an extensive study of over 1200 students ranging from elementary to college level, Siegel (1962) found that most groups gained in speed and comprehension. In addition, the largest gains made seemed to be associated with the higher levels of IQ (or better readers to begin with).

Yet another study compared the achievement of the high (mean IQ 131), middle (mean IQ 118), and low (mean IQ 105) intellectual ability reading students. The middle group consistently achieved the greatest gains with the low and high groups following in that order (Summers, 1963). It should be noted that only the lack of range at the upper levels prevented the high group from scoring the
greatest gains.

A more specific piece of research (Millman, 1963) dealt with a comparison of lower ability and higher ability students and their performance on tachistoscopic equipment, pacers, and accelerators. Once again the highest gains were made by the better reading group. The most retarded profited least. It was concluded that at the high school level this type of equipment would be most beneficial to the superior reader, but still useful for most others.

At the college level, one study was discovered that refuted the evidence that the good get substantially better and the poor gain minimally. Durrel & Martin (1967) showed that gains in reading improvement scores for college students both above and below the pretest median showed that the gains in achievement were not significantly different for the two groups. The slower groups made similar gains to those of the faster.

If, however, the better readers do record more proportionately greater gains than the poorer reader, as certainly attested to in the Ventura evaluation, then reasons must be advanced in explanation of this phenomenon. On the surface, one might argue that a reading program is ineffective unless it is implementing a greater gain for those who need it most -- the more seriously disabled reader -- the Basic Reader of the Ventura program. Logically, it might seem that the severely disabled
reader would compile the greatest gains, if for no other reason that the great range available to him on the scale. Certainly the less disabled reader has a smaller range available to him, as well as the regression to the mean phenomena to contend with. Despite these factors, the truism persists that the good get better.

One must realistically look to the obvious for the reason. The severely disabled reader who comprises the Basic Reading group presents a more difficult problem of diagnosis and remediation. In the Basic Reader there is usually a pattern of interacting factors operating, each contributing its part to the disability and each impeding further growth. So the problem of the remedial clinician is manifestly more complex in trying to search out the limiting condition in each particular case and applying the proper corrective measure. In the more mildly disabled reader, such as would be found in the Reading Improvement section, these complexities may not exist.

The magnitude of the problem is articulated in a rather current theory of so-called "Academic Reorientation" (Gardner & Ransom, 1968). The authors talk about the remedial student, defined as being of average intellectual functioning whose reading skills are two or more years below his potential (the definition of the Basic Reader in the Ventura program), and the need to change his attitudes and behavior.

According to the authors, remedial students manifest
more avoidant behaviors in the school situation than do the non-remedial readers. These avoidance behaviors must be altered in the positive direction. This alteration is the goal of academic reorientation. Avoidance behavior is certainly nothing new to the remedial reading teacher. The avoidance behavior is attributed to an abnormally high anxiety level as regards the failure-associated school learning tasks.

Finally, the academic reorientationists feel that virtually all remedial students manifest a strong underlying fear that they are mentally retarded and have some unusual type of brain problem. Assuming the existence of some of these problems, it is no wonder that such a gap exists between the achievement of the Basic Reader and the Reading Improvement reader.

The first semester evaluation of 1970-71, showing that for the first time the Basic Readers had gained as appreciably as the Reading Improvement readers, was surprising.

Certainly the reason for this reversal of trend was not at all clear. One thing was certain. The 15 point gain in just the first semester represented the largest gain ever by the lower group. It can be said, though, that the Ventura reading department has been alert to the special needs of the Basic Reader. In the scheme of thing, the bolstering of the severely disabled reader's self esteem is an integral part of the remediation process.
Cruickshank (1958) has observed, and the Ventura High School reading program philosophy concurs that, "Although he is not likely to engage in higher academic study, the severely disabled reader needs the same opportunities to develop and take his place in an increasingly complex society. Teaching him how to read better through programs suited to his abilities and requirements will enable him to experience some successes in school as well as prepare him for the responsibilities he must assume later."

The enormous complexities involved in remediating the Basic Reader was pointed up by Staples (1964). She found that the severely retarded reader tended to be much less stable in his reaction to learning. Whereas the slightly retarded (Reading Improvement) reader might profit from any one of four learning modalities, the seriously disabled reader conceivably might successfully react to only one.

Although it is often difficult to separate the various modes of learning (visual, auditory, tactile, kinesthetic), the poor reader will oftentimes profit only from the one mode. The problem, therefore, is in identifying the more profitable learning mode. Needless to say, this is often a time consuming trial and error ordeal.

For example, one researcher (Riessman, 1962) suggested that culturally deprived children are oriented toward physical and visual learning rather than aural learning. Other students can only learn auditorily, while yet others
need a Fernald type technique of tactile-kinesthetic learning. Should a student appear to learn better by one modality than another, instruction should usually begin by emphasizing the stronger modality, while perhaps strengthening the weaker modalities. Instructing a student in a non-receptive modality is largely an unproductive pursuit.

These are some of the problems and pitfalls inherent in trying to raise substantially the level of the seriously disabled reader. Maybe this also offers a partial answer to the question of why the Basic Reader is seemingly unable to match the gains of the Reading Improvement Readers.

Nevertheless, the complexities of diagnosis and the painstaking task of remediation must be undertaken if the Basic Reader is to maximize his potential. If in the second semester the Basic Reading group of 1970-71 is able to maintain or increase its first semester gains in relation to the Reading Improvement group, then the program may be said to have better met the unique needs of the lower group. Unquestionably the program would then require further examination to determine whether the parity was genuine, or whether it simply reflected a failure to sufficiently challenge the better Reading Improvement sections to the limits of their capacity. For the reading teacher has an obligation not only to bring the lowest reader to a more functional level, but
the better reader to even higher plateaus.

Grade levels 10, 11, and 12. The significant vocabulary gains made by the twelfth graders over the other grades was interesting. The disparity could possibly be attributed to the additional degree of verbal sophistication held by the seniors, although there is little in the literature to support this.

There is a study by Bluestein (1967) which asserts that the older the child, the higher his level of reading achievement. The higher the student's grade level and IQ at the time of placement into a remedial program, the greater is likely to be the improvement. This would tend to be supported by another finding (McMenemy, 1965) that the children in grades six, seven and eight, made greater gains than those in grades four and five.

Lawson (1964) researched the effects of free reading as related to vocabulary gains. It was concluded that greater gains in word knowledge were directly associated with more free reading. Whether one can assume that over the years the seniors have had more time for free reading is questionable.

Ultimately the answer for the vocabulary disparity might reside in McDonald's (1965) contention that it is a false assumption to assume that standardized reading tests provide reliable and valid measures of some of the most important aspects of reading. In the case of the Ventura seniors, they may well have answered more vocabulary
questions correctly as a result of additional background knowledge alone, rather than any taught vocabulary skills.

Certain factors should be pointed out relating to the overall reading ability scores so heavily favoring the seniors over the sophomores and juniors. Any significance attached to this particular overall reading ability differential should be viewed with certain skepticism. It must be remembered that the overall score reflects a weighting of both the vocabulary and comprehension scores. Inasmuch as the seniors scored significantly higher in vocabulary, the weighted total would imply a superiority in total reading ability. This was not obviously the case, since comprehension levels were virtually identical for each of the grade levels. When interpreting the Diagnostic Reading Test results, this point must be considered at all times.

The results would seem to indicate that at the senior high school level, age is not a significant factor in improving reading skills. Younger sophomores, working alongside seniors in the reading laboratory, were able to profit equally in the all important comprehension improvement.

Boys versus girls. No significant differences in achievement favoring one sex over the other were noted for the total of 539 boys and 242 girls who were involved in the reading program since 1965-66. This ratio of over 2-1 seemed to be characteristic of reading programs
throughout the country. Studies (Sheridan, 1949) showed a consistent 2-1 ratio of more boys than girls with reading disabilities. This apparently holds true in Europe also as witnessed by Malmquist's (1970) recent study of retarded readers in the 14-15 year old group at the secondary level. When retarded readers were paired with average to good readers, the results showed that marked reading failure was found to remain at about twice as frequent in the male group as in the female group.

Accounting for this wide disparity between the sexes has intrigued researchers for some time. Gates (1967) felt that the reason was environmental and not genetic. Boys were simply not motivated by the importance of the reading act. They were less interested in the school routines and perhaps perceived reading as a feminine pursuit. Furthermore, reading was not emphasized, at least at the lower levels during the formative years, as a male activity.

In a recent study (Sears & Feldman, 1966) it was shown that at the lower levels the attention span of boys was 12-15 minutes, while that of girls was 20-25 minutes depending upon the activity.

Other theories held that boys were resistant and negative about education and less concerned with achievement at the elementary level; that girls, on the other hand, were eager to please the adult figure. Others felt that boys lacked adequate auditory discrimination thus
causing them phonetic analysis difficulties. It has been mentioned that boys are simply poor verbalizers with less facility than girls. Some studies purported to show that boys received more disapproval and blame than girls.

Although most researchers would point to educational, societal and cultural differences to account for the disparity, some feel it is of genetic origin (Sheridan, 1949; Gallagher, 1948). Girls, they feel, even when of lesser intelligence, seem to have a superior language sense. Boys are later in language development than all other aspects of development.

Another theory holds that the sex differentiation begins in infancy. The girl identifies with the mother speech model. This identification is more satisfying to her than to the boy who identifies with the father, who is home less. Thus the girl is able to receive more positive modeling opportunities. It is also suggested that girls receive more training in conversational involvement because her interests are similar to the mother.

The classic study by Preston (1962) strongly implied a cultural difference. He compared the reading achievement of sixth grade boys and girls in Philadelphia schools with a matched group of German students. The findings revealed that in the American school the girls were superior to boys. In the German schools, however, the boys were superior to girls. The author decided that, "It would seem reasonable to conclude then, unless this is
a unique problem, that the interaction of sex, cultural achievement, and possibly heredity is too complex to allow for a simple solution."

Whatever the reasons for the difference may be, there is substantial evidence that the disparity between boys and girls decreases and diminishes with age. Traxler (1969) found only a slight difference of girls over boys at the junior high level. It was concluded that girls may retain a small amount of the advantage over boys in reading, but the difference between the sex groups is too small to have either statistical or practical significance.

An analysis of the data recorded in the Ventura reading program evaluation would bear out Traxler's study. Because although both boys and girls made significant gains in all reading areas, neither sex group achieved significant gains over the other.

One semester versus full year. The most exciting discovery here occurred when it was seen that the Basic Readers scored 15 points in Comprehension during the first semester while in the previous years the Basic Readers were able to average only an 11 point gain for the entire year's efforts.

The unknown quantity here is whether the 15 point semester gain represents the maximum achievement level of the Basic Readers, or whether they are capable of even greater improvement the second semester. A second semester posttest will, of course, supply the answer.
A number of studies have been made in this area. McDonald (1969) suggested that remedial readers usually attain their peak the first semester. He found that the gains made by the corrective group on level of comprehension were always significant the first semester, but not always the second. In addition, the mean gains made by the total group during the first year of the program were statistically significant the first semester, but not the second. The author concluded that gains made from September to January were consistently greater than the mean gains from January to May; that improvement seemed to have been greater in the first than in the second semester.

These observations were corroborated in another research study (Summers, 1963) which found that, in general, a school could offer reading in a semester scheduling, or a whole year scheduling, and expect the same level of achievement under either plan. It would be dangerous to generalize that the second semester of any reading program would be redundant for all students, but reading teachers are certainly aware of individual students for whom the second semester would be relatively unprofitable.

Some experts were of the opinion that reduced results the second semester were possibly attributable to the sameness of routine. Students will accept repetitive reading skill drill activities for a period of time and
then withdraw. It has been suggested by many (Lee, 1951; Newcomb, 1943; Webster et al, 1962; Dressel & Mayhew, 1954) that changes in the individual are greater in the first time unit (quarter, semester, year) in the new environment than in the succeeding units of time.

Bloom (1964) found that the greater learning increment in college occurred during the first year than in the next three. Apparently new and intensive learning experiences have a more powerful effect than the continuation of the same experiences.

From this might be extrapolated the idea that if the Ventura Basic Readers are to improve upon their 15 percentile gain during the second semester, then freshly innovative approaches must be employed. A departure from the established regimen needs ensue. This might include varying skill development routines which sometimes approach tedium. Varied usages of the already too familiar laboratory kits, workbooks and machines, as well as introduction of new materials, if economically possible, could be considered. The second semester could offer a total new look resembling, if not becoming, a new experience.

The one semester vocabulary gain of only 11 points compared to the five-year mean of 17 percentile points caused some concern. Whether this represented their maximum advance could not be known until the second semester evaluation. On the optimistic side, there was
evidence (McCullough, 1957) that vocabulary development was an on-going process and that few programs showed results over short periods. Thus the probability existed that given renewed direct vocabulary instruction in the second semester, additional gains could be expected.

Although the comprehension gains of the one semester group were considered excellent when rated opposite the year advances of other groups, to determine the precise amount of time necessary to bring different reading abilities to their maximum potential would seem a staggering task. At best the remedial reading teacher can, by periodic formal and informal evaluation, estimate when the student has reached a satisfactory plateau upon which further instruction would yield minimal results. Siegel (1962), in a five year study of remedial readers, has estimated that the severely retarded readers require one year or more of attention.

The entire problem of estimating time length as related to maximum reading growth is compounded by the additional factor of retaining that growth once it has been achieved. It then becomes a question of not only how long it will take the particular student to reach his maximum growth potential, but how long it will take to insure that this growth is permanent and will not readily dissipate once the student is gone from the program. That this is a very real problem is evidenced in follow-up studies (Harris, et al, 1969) which indicate
that after a learning period there is considerable
decrease or even stagnation in the rate of growth in
reading unless remedial instruction is continued. After
students were discharged from reading classes their rate
of reading progress slowed down very significantly.

Buerger (1968) showed that pupils in a study who
received remedial reading instruction demonstrated signi-
ficant immediate post-remedial gains, but were unable to
sustain them once remediation was terminated. In another
study (Collins, 1961) 60 pupils were studied for one and
two year periods after remedial treatment. The study
revealed that progress was made during the treatment,
but very little progress afterwards. It was concluded
that the long term effects of the remediation were
negligible.

All of this would seem to put the original question,
"Is one semester as good as two?" in a different perspec-
tive. Perhaps specific time blocks are irrelevant.
Apparently, for many disabled readers, the maintenance
and continuation of reading growth after treatment is
contingent upon continued long term attention to the
problem. There is a need for constant supportive reading
assistance afterwards.

So rather than think in terms of one semester as
opposed to two semesters of treatment, the realistic
focus should probably center on how to implement this
necessary supportive assistance after the student has
completed his formal bloc of training. Not only does the student fail to continue his reading gain after treatment, the research tells us that in many cases there is a regression that virtually negates the remediative efforts of an entire semester or year.

Even the more optimistic reports are none too encouraging. Staton (1970) revealed that participants in a reading improvement course retained only part of the gain over a twelve month period of time. In a study utilizing control and experimental groups it was found that students in a remedial reading program retained their skills for a six-month period after completion of training. (Barbe, 1952). More typical in the literature, however, are the reports that the greatest gains are made during remediation with little or no appreciable gains thereafter (Buerger, 1968; Newman, 1965).

It is difficult to accept the idea that the significant reading gains accomplished over the years in the Ventura reading program represent only short term accomplishments, soon to be neutralized and extinguished by the passage of time.
Table 1

Method of Selection Followed in the Identification of Reading Candidates

<table>
<thead>
<tr>
<th>I. Q.</th>
<th>75</th>
<th>85</th>
<th>90</th>
<th>100</th>
<th>110</th>
<th>130</th>
<th>140</th>
</tr>
</thead>
<tbody>
<tr>
<td>To two years below expectancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than two years below expectancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Power Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Reading Improvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Basic Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Basic Reading (Top priority)
B. Reading Improvement
C. Borderline for Basic Reading. Priority after A and B
D. Borderline for Reading Improvement. Priority after A, B, C.
E. Power Reading
Table 2

Mean Vocabulary Percentile Gain Difference From Pre- to Posttest

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10th girls</td>
<td>23</td>
<td>7</td>
<td>11</td>
<td>15</td>
<td>9</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>11th girls</td>
<td>21</td>
<td>10</td>
<td>8</td>
<td>17</td>
<td>11</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>12th girls</td>
<td>21</td>
<td>17</td>
<td>5</td>
<td>29</td>
<td>16</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>total girls</td>
<td>22</td>
<td>12</td>
<td>8</td>
<td>23</td>
<td>12</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>10th boys</td>
<td>19</td>
<td>14</td>
<td>13</td>
<td>20</td>
<td>9</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>11th boys</td>
<td>17</td>
<td>17</td>
<td>15</td>
<td>22</td>
<td>12</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>12th boys</td>
<td>23</td>
<td>17</td>
<td>13</td>
<td>32</td>
<td>14</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>total boys</td>
<td>20</td>
<td>16</td>
<td>14</td>
<td>24</td>
<td>12</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Basic Rdrs.</td>
<td>21</td>
<td>13</td>
<td>11</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Rdg. Improvmts.</td>
<td>18</td>
<td>27</td>
<td>12</td>
<td>31</td>
<td>14</td>
<td>12</td>
<td>19</td>
</tr>
<tr>
<td>total all</td>
<td>19</td>
<td>19</td>
<td>12</td>
<td>23</td>
<td>12</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>

* first semester
## Table 3

Mean Comprehension Gain Difference From Pre- to Posttest

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10th girls</td>
<td>9</td>
<td>17</td>
<td>13</td>
<td>19</td>
<td>18</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>11th girls</td>
<td>9</td>
<td>9</td>
<td>12</td>
<td>19</td>
<td>17</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>12th girls</td>
<td>11</td>
<td>19</td>
<td>11</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>total girls</td>
<td>10</td>
<td>17</td>
<td>12</td>
<td>16</td>
<td>15</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>10th boys</td>
<td>11</td>
<td>14</td>
<td>10</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>11th boys</td>
<td>15</td>
<td>23</td>
<td>17</td>
<td>11</td>
<td>14</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>12th boys</td>
<td>13</td>
<td>16</td>
<td>12</td>
<td>17</td>
<td>13</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>total boys</td>
<td>12</td>
<td>16</td>
<td>12</td>
<td>15</td>
<td>14</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Basic Rdrs.</td>
<td>10</td>
<td>14</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Rdg. Improvts.</td>
<td>13</td>
<td>19</td>
<td>12</td>
<td>18</td>
<td>16</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>total all</td>
<td>12</td>
<td>16</td>
<td>11</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>14</td>
</tr>
</tbody>
</table>

* first semester
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10th girls</td>
<td>13</td>
<td>10</td>
<td>9</td>
<td>16</td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>11th girls</td>
<td>11</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>12</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>12th girls</td>
<td>13</td>
<td>15</td>
<td>8</td>
<td>23</td>
<td>14</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>total girls</td>
<td>13</td>
<td>12</td>
<td>12</td>
<td>20</td>
<td>13</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>10th boys</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>11</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>11th boys</td>
<td>14</td>
<td>13</td>
<td>19</td>
<td>17</td>
<td>12</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>12th boys</td>
<td>19</td>
<td>16</td>
<td>19</td>
<td>26</td>
<td>15</td>
<td>11</td>
<td>18</td>
</tr>
<tr>
<td>total boys</td>
<td>15</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>13</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Basic Rdrs.</td>
<td>14</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>9</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Rdg. Improvmts.</td>
<td>14</td>
<td>25</td>
<td>16</td>
<td>26</td>
<td>15</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>total all</td>
<td>14</td>
<td>17</td>
<td>15</td>
<td>20</td>
<td>13</td>
<td>12</td>
<td>15</td>
</tr>
</tbody>
</table>

* first semester
Table 5
STUDENT SAMPLE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10th girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11th girls</td>
<td>3</td>
<td>4</td>
<td>11</td>
<td>7</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>12th girls</td>
<td>9</td>
<td>11</td>
<td>18</td>
<td>15</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>total girls</td>
<td>29</td>
<td>24</td>
<td>40</td>
<td>29</td>
<td>67</td>
<td>53</td>
</tr>
<tr>
<td>10th boys</td>
<td>38</td>
<td>15</td>
<td>36</td>
<td>22</td>
<td>63</td>
<td>54</td>
</tr>
<tr>
<td>11th boys</td>
<td>11</td>
<td>4</td>
<td>11</td>
<td>11</td>
<td>66</td>
<td>23</td>
</tr>
<tr>
<td>12th boys</td>
<td>13</td>
<td>36</td>
<td>35</td>
<td>17</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>total boys</td>
<td>62</td>
<td>55</td>
<td>82</td>
<td>50</td>
<td>184</td>
<td>106</td>
</tr>
<tr>
<td>Basic Rdrs.</td>
<td>43</td>
<td>46</td>
<td>41</td>
<td>29</td>
<td>94</td>
<td>91</td>
</tr>
<tr>
<td>Rdg. Improvmts.</td>
<td>48</td>
<td>33</td>
<td>61</td>
<td>50</td>
<td>157</td>
<td>68</td>
</tr>
<tr>
<td>total all</td>
<td>91</td>
<td>79</td>
<td>122</td>
<td>79</td>
<td>251</td>
<td>159</td>
</tr>
</tbody>
</table>

* first semester
CHAPTER IV
RECOMMENDATIONS AND DISCUSSION

This study has measured the reading performances of 781 students representing all ranges of ability who, since 1965, have completed courses in the Ventura High School reading program. The results of the pre- and post-tests administered over this period offer support to the contention that the program has been successful in improving the reading skills of this group. Although the existing program has demonstrated its capacity for improving reading skills, certain recommendations are called for to insure continued success.

Discussion of test instrument. The test instrument used by the Ventura High School reading program over the five year period was the Diagnostic Reading Test: Survey Section (upper level). Geerlof & Kling's survey of 246 college and adult reading programs found the Diagnostic Reading Test second only to the Nelson-Denny Diagnostic Reading Test in popularity. The Survey Section of the Diagnostic Test gives five scores: rate of reading, comprehension, vocabulary, total comprehension, and total.

A number of criticisms have been leveled at the test. (Buros, 1965). Most of these criticisms have been directed at the Lower Level batteries. At the upper level, however, it has been said that the manuals of direction, tables of norms, and other literature accompanying the
tests have not reflected professional standards. As far as the test itself, many of the test items have been said to lack polish and appear faulty. Moreover, some of the selections need revising and should be brought up to date. Members of the Ventura reading department concurred with the latter criticism. The interest level in many of the comprehension selections appeared quite minimal.

It is important to note that the reliability and validity of the test was not questioned. It was commended for attempting to measure the skills already defined as the major areas of reading instruction rather than so-called "pure factors."

Despite the amount of criticism, none of it seemingly too damaging, the test is widely used at the secondary and college level. One critic has said (Kingston, 1965), "Diagnostic Reading Tests represent a step in the right direction. One cannot help but feel that the overall planning which has gone into this project has been excellent..."

Regrettably, superior instruments for measurement have not been made available. In the case of the Ventura program, it is felt that the consistency of the score results measured over a five year period showing an average mean percentile gain of 16 points in vocabulary, 14 in comprehension, and 15 in total ability, indicate a degree of success.

Testing Program. Of the total test battery offered
by the Committee on Diagnostic Reading Tests, the Ventura reading department over the years has used only the Survey section. This section is capable of measuring reading performance in three general areas: vocabulary, comprehension and rate of speed. Unfortunately, it is not designed nor is it capable of functioning adequately as a diagnostic screening device -- although it is being used for such a purpose. In reality only the grossest estimate of a student's reading deficiencies can be obtained from a survey test.

A diagnostic type test, on the other hand, provides very detailed measurement within a specific area, thus emphasizing the identification of strengths and weaknesses within this area. To sum it up, the diagnostic test as opposed to the survey test is primarily concerned with intensive coverage within a single reading skill area.

For example, a recommended battery such as the Stanford Diagnostic Reading Test Level II would provide not only a comprehension score, but would reduce it further to literal and inferential comprehension as an aid to diagnosis. The vocabulary test is given auditorily thus serving the additional purpose of predicting potential. Word recognition and word analysis skills which cannot be identified in a survey test are assessed in the Stanford Diagnostic sub tests of sound discrimination, syllabication, and blending -- the most complex of the word recognition skills.
Reading programs which stress individualized instruction must be prepared to deal with all ranges of complex reading problems. Without a fairly sophisticated selection of diagnostic tests only cursory remediation can be expected.

It may well be that even the limited gross diagnostic information elicited from the Diagnostic Survey test is being misinterpreted. One must seriously consider the implications of Cline's (1969) criticism of survey tests, "Because reading tests are timed, the percentile ranks and grade levels are determined by correct responses for all possible answers and not on correctness in the sections completed. This handicaps the slower, but competent reader." As a result of this we may be perpetrating incorrect diagnoses with resultant misdirected remedia-
tion techniques.

There is the likelihood of blindly assuming that because a student records a low percentile score in the comprehension section of the survey, his primary reading deficiency is in the area of comprehension. If so, diagnosticians may be making a serious error of judgment, because the low comprehension score may only reflect the inability of a slow, anxious, but competent reader, to complete the test in the allotted time. Consequently, this would totally alter the main thrust of the remediation program for the student from one of comprehension improvement to a more realistic program of speed
improvement. Also indicated would be attempts at lessening the anxiety reactions by recognizing the emotional dynamics operating in the student. This represents just one of the pitfalls inherent in the timed reading test.

A consideration might be to eliminate the time factor and effect a conversion into a power test. This would, of course, invalidate any reliance on the Diagnostic Reading Test national norms. But, on the other hand, a school norm could as easily be assembled with even a greater degree of validity.

**Selection.** The importance to any viable reading program of an effective method of selection has been discussed in this study. Obviously the program must select those students who have the mental capacity to profit from reading instruction. This capacity is usually determined by an intelligence test. However, according to Ramsey (1962):

> At this point it is necessary to affirm that some intelligence tests fail to distinguish between slow learners and poor readers. Experimenters have noted the truth of this observation, especially when group verbal tests are used to assess mental ability. Such tests usually require reading ability to insure high performance; obviously poor readers are penalized under these circumstances. Too often students of average and superior ability are classified as inferior learners on the basis of the results from inadequate tests.

Bond & Tinker (1967) feel that while undoubtedly the true mental ability of the child should be used as a basic consideration in classifying a student as a disabled
reader, marked caution is necessary. The principle reason for this caution is that the determination of mental capacity of a poor reader is difficult. The difficulty resides in the mental tests themselves, which to a great extent are reading tests and therefore the poor reader cannot demonstrate his true mental ability.

This problem manifests itself when reading programs, such as Ventura High School, require a numerically described minimum intelligence test score for priority admittance into the program. The priority classifications range from an A (highest priority) to an F (lowest priority). The students with the highest priority are the first to be enrolled in the appropriate reading class. Those with lower priorities who are unable to secure a class are placed on a waiting list to be accepted whenever an opening presents itself.

The highest priority belongs to the Basic Reader who is two or more years below expectancy with an IQ not lower than 90. The rationale here, as implied in Part C of the philosophy, is that the most seriously disabled readers be offered first preference. A further assumption is that an IQ of under 90 would indicate a "slow learner" who would not profit as readily from reading instruction. This would seem to contradict the basic spirit of the philosophy that reading is so essential it must be offered equally to all.

Despite the philosophical implications, the major
fallacy lies in accepting the IQ measure as a valid estimator of mental abilities. This becomes very important when we realize that a disabled reader's entry into the Ventura reading program might be contingent on scoring at least 90 on either the Lorge-Thorndike, Otis, or CTMM, all three of which are heavily language oriented and essentially reading tests.

A questionnaire return from 795 school systems (Austin & Morrison, 1963) reveals how widespread this selection is. The returns showed that the cutoff scores for selection ranged from a low of 70 to a high of 100, but in most systems, such as Ventura, minimal intelligence test score of 90 was a prerequisite. "While individual tests were given in a few systems to estimate intelligence, group tests were far more common. It is therefore possible, due to the verbal nature of group tests, that the intelligence of non- or underachieving readers may have been underestimated, thereby preventing them, unfairly, from obtaining special assistance."

Apparently too many students in too many school districts are indicted from the test data as dull and not-too-bright, when in reality they are poor readers. Many experts feel that the lack of reading ability is associated with low scores on group intelligence tests requiring reading. A study by Neville (1965) concluded that poor readers in a fifth grade sample made significantly lower scores in group IQ's requiring reading than
on the individual tests requiring little or no reading.
The study also showed that:

1. The good fifth grade readers made scores on the group IQ tests which were as high or higher than on individual tests.

2. Poor readers tended to make scores on most IQ measures which were significantly lower than those made by good readers.

3. Good readers made on all intelligence measures IQ scores which were significantly superior to poor and average readers.

4. Poor readers obtained IQ scores significantly lower than average readers on some tests (Lorge-Thorndike, WISC Verbal), but not on other tests (WISC Performance, Peabody). This is significant to note because the Lorge-Thorndike, upon which poor readers scored significantly lower than average readers, is one of the IQ measures relied upon by the Ventura schools in determining priorities into the reading program.

5. Youngsters in the intermediate grades whose reading level is below grade four are almost certain to have their intellectual functioning significantly underestimated by verbally oriented group intelligence tests.
Many other studies seemed to support the contention (McLeod, 1968; Wilson, 1967) that in order for an IQ to be effective in establishing a child's reading potential it must be free from verbal contamination. Unless group intelligence tests have non-language features which are considered in the evaluation, they will not be particularly useful in estimating the reading potential of children with reading problems.

Karlin (1969) speaks about the necessity to affirm once and for all that many intelligence tests fail to distinguish between slow learners and poor readers. Group verbal tests especially which are used to assess mental ability usually require reading ability to insure high performance. From these statements it would seem that too often students of average and superior ability are classified as inferior learners on the basis of results from inadequate tests.

In a comparative study of good and poor reader's intellectual profiles revealed by WISC scores (Majors, 1966), poor readers were generally poorer on the Verbal Scale and better on the Performance Scale. A study by Woolf & Woolf (1957) indicated that by oral tests of intelligence some non-readers, as judged by verbal group intelligence tests, fell into the category of gifted children.

An interesting theory advanced to account for this situation holds that test authors want the IQ test to
correlate with achievement and educators want achievement to correlate with IQ so they have merged (Bauernfeind, 1963). Test authors "prove" the validity of their mental tests by loading them with reading achievement so that they correlate with reading tests. This accounts for the high IQ student scoring high on a reading test and a low IQ student scoring low. What invariably follows is that the low IQ, low reading test achiever is looked upon as a slow learner, when he indeed may be quite bright. In the light of these test deficiencies it is necessary when building a school testing program to identify the student who perhaps has abilities beyond his present level of tested achievement.

For reading programs such as Ventura High School which depend upon a priority system of selection it is incumbent that the test instruments be accurate screening devices. Too many mental ability tests, including the verbal and language sections of the mental tests used in the Ventura schools, require specific school learning and precision reading skills. The disabled reader on this type of evaluation would do well to break the magical 90 IQ barrier. In this group reside perhaps the most severe disabilities in need of an A, rather than a C or D priority to insure them inclusion into the program.

Mental ability tests should ideally measure:
(1) Understanding of common phenomena; (2) Abilities to form new associations; (3) Skills in abstract
reasoning (Cronbach, 1960). The weight given to these ideal measurements varies drastically from test to test.

"Cronbach's Spectrum" is an attempt to compare the various tests of scholastic aptitude (a term preferred by Robert Thorndike, co-author of the Lorge-Thorndike Test, in lieu of intelligence test) and rank them on an A to F scale. Proceeding from the assumption that a perfect test of potential should test unschooled abilities rather than educated skills, Cronbach would issue the lowest rating of A to any test weighted heavily with subject matter. Conversely, the ideal test would have a minimum of subject matter and reading orientation and would show a low correlation with achievement. Therefore the underachiever would normally score at a high level stanine in the E-F type of aptitude test and a low stanine on a standard achievement test.

Of the three mental ability tests used by the Ventura District, Cronbach rates the non-language, non-verbal sections of the Lorge-Thorndike and California Test of Mental Maturity as E-F types. Both tests correlate with achievement at only a moderate .50. The Otis Mental Ability Test is dismissed as essentially an achievement test and rated A-B in the spectrum.

Although the Lorge-Thorndike gives a language and non-language score and the CTMM a verbal and non-verbal score, it is the total score which the Ventura School District recognizes in assigning reading priorities.
According to "Cronbach's Spectrum," a more accurate assessment of student potential would be realized by recording only the non-language and non-verbal sections of the test.

This contention gains support from a study by Reed (1967) in which older retarded readers of normal IQ scored lower in verbal abilities than non-verbal. A matched group of normal readers showed the opposite, scoring higher on the verbal than non-verbal. The significance imputed to this by the author is that among older children the relation of verbal to non-verbal abilities may be more important for reading than the level of intelligence.

If group mental ability tests, because of inherent deficiencies, so correlate with reading achievement tests that reasonable expectancy is not established, an inaccurate student profile will emerge.

Numerous methods of measuring expectancy are in wide use today. It is unfortunate that many are predicated on the results of group IQ tests (Simmons & Shapiro, 1968). Monroe uses MA, CA, and arithmetic achievement; Harris uses MA only; Bond and Tinker use years in school x IQ; the California Test Bureau has developed "Anticipated Grade Placement Tables" for use with the California Achievement Tests which take into account MA, CA, and exposure to academic instruction. Others, like Strang and Durrell & Sullivan, would eliminate the
oftentimes spurious IQ index and rely solely upon the student comprehension level to estimate capacity. Large school districts, such as the Ventura Unified, would argue with probable justification the impracticability of screening thousands of students on an individual basis with a listening comprehension test. Because of the numbers problem, more expedient group standardized tests are used, even if it means sacrificing many students to the fallibility of that type of test instrument.

The importance of accurately differentiating the slow learner from the poor reader is critical to reading programs such as Ventura which operate on a priority system using an IQ of 90 as the cutoff. If, as the evidence seems to support, the group intelligence test is nothing more than a reading test, then the more severely disabled readers, most in need of remediation, will be dealt low priorities by virtue of having below 90 IQ scores.

Unfortunately, because of the large numbers of students who must be tested at one time, the group intelligence test, with all its shortcomings, is the most feasible. It is not practicable to administer the individualized Stanford-Binet or WISC on a district-wide basis, although this would be the ideal.

There is, however, a recommendation which the Ventura Unified School District Division of Educational Services could readily implement and which could better differentiate
the slow learner from the poor reader. As mentioned earlier in this paper each potential reading candidate is given a retardation index. This is a comparison of his highest recorded intelligence test (either the Lorge-Thorndike, CTMM or Otis) with the California Test of Basic Skills. The comparison then gives the amount of reading retardation in number of years. Two or more years below capacity with an IQ of 90 or above insures top priority in the program. Second priority is given to one reading less than two years below capacity with an IQ of 90 or above. Therefore the disabled reader must score at least a 90 IQ, which is exceptionally difficult considering the verbal, language parts of the test.

The recommendation, therefore, is to score only the non-language section of the Lorge-Thorndike and the non-verbal section of the CTMM rather than following the policy now of gauging IQ on the total performance. In this way the poor reader will not be handicapped by having the reading sections used against him. This will also be a distinct advantage to the bilingual segment of the school population.

At Ventura High School the percentage of Mexican-Americans averages 15-17 percent annually. Many of these students are from bi-lingual households. Consequently, to evaluate their potential from a language oriented test might be a heavy penalty to impose. It is perfectly reasonable to assume that many are labeled slow learners
and issued disadvantageous priorities in the reading program.

Inasmuch as the Otis Intelligence Test is considered by Cronbach as primarily an achievement test it is recommended that it not be used to measure mental ability.

It is further recommended that in all cases where a reasonably accurate mental ability score seems jeopardized by the student's inability to negotiate the written IQ test, that student should be administered the Slosson Intelligence Test (SIT). This particularly useful test was constructed in 1963 by Richard Slosson and designed as an abbreviated form of the Stanford-Binet Intelligence Scale. It is an oral test where the questions are read to the student. A test can be administered and scored in approximately 20 minutes. Ideally it should be available to the Educational Services Office, the high school counselor, and the reading teacher.

A recent evaluation of the SIT (Armstrong & Mooney, 1971) shows it to have a reliability coefficient of .97 and a standard error of measurement of 4.3 IQ score points. The Stanford-Binet Intelligence Scale was used as the criterion for validity. A correlation coefficient between the two tests ranged from .90 to .91 for subjects from four to 18. An average IQ score difference of 5.2 was measured between the tests. From the results of the study it was concluded that scores obtained from the SIT administered by either a test specialist or a teacher
could be used with as much confidence as scores obtained from the Stanford-Binet administered by a test specialist.

Hanson & Wagne (1968) found that both the SIT and the Quick Test (another very expedient oral Intelligence Test are appropriate for preliminary screening of students with learning disabilities, and a rough estimate of intelligence which requires very little testing time. The Slosson was considered better because of its superior reliability, though the Quick Test was slightly faster.

**Orientation.** The policy of orientation which was written into the initial program, but lapsed in 1969-70 and 1970-71, should be reinstated. Sometime prior to the school registration for the following year, all students as well as counselors should have the opportunity to tour the reading laboratory facilities and be given a briefing on its operation. The objective of this would be to upgrade the program by attracting the type of highly motivated student genuinely desirous of improving his reading skills. The problem confronted by most reading programs is that they can readily deteriorate into dumping grounds if constant upgrading is not practiced. Needless to say, materials and procedures also require upgrading if the sincere student is to be attracted to the program.

Orientation procedures are needed to sell and legitimatize often maligned reading programs where the stigma of the "dumb" kid taking reading still exists. The need
to attract strongly motivated students is especially necessary to the Ventura program. The situation exists where reading may be taken in lieu of English units. The danger is present that strictly unmotivated students will avoid the heretofore compulsory English courses and be channeled into reading whether they evidence a genuine reading disability or not.

The necessity of continuously upgrading the program through increased student motivation is enunciated in many studies which tend to show that the best motivated groups make the greatest gains (Woolf & Woolf, 1957; Nelson, 1963; Siegel, 1962). The degree of motivation is considered the most important factor in insuring reading success. The orientation session is intended to generate the type of interest in reading improvement that will bring into the program a more highly motivated type of student more likely to achieve success.

Program flexibility. In addition to long term instruction for seriously disabled readers, the school reading program should also ideally provide short term instruction for students needing to correct minor skill deficiencies. When the new reading program was conceived in 1965, a system was incorporated which provided for the temporary transfer of remedial students from their English classes into the reading laboratory for short term remediation. Upon satisfactory remediation of the problem the student would then resume regular English
class activities. From all reports the system worked only to limited degree and then faltered before the year was out. It was not subsequently renewed.

The recommendation here is that an operative procedure be devised so that the short term reading instruction system can be reinstituted. Past problems seem to have centered on the logistics involved in the transferring procedure. How long could a student be away from his English class and still receive credit? How should the grade be arrived at? Could the achievement rate of the short term student be estimated, so that his length of stay in the laboratory be predicted? It seems that a general understanding among the teachers involved in the short term procedure could help facilitate the expediting of the first two questions.

Specifically, any student recommended by the English department as a likely beneficiary of short term instruction would be tested by the reading instructor. If a reading deficiency existed which could be amenable to short term instruction, then, by mutual agreement of the student, and both the English and reading teacher, instruction in the reading laboratory would commence forthwith. Upon completion of remediation the student would be returned to class with full English credit for all time spent in the reading laboratory. The English teacher would have responsibility for the grade, but would consult with the reading teacher to discuss student
progress while in the laboratory.

Because of the complexities of remediation, it would be difficult to predict with any degree of accuracy the length of time involved in the transfer arrangement.

Woolf & Woolf (1957), in trying to determine what the optimal number of sessions for remedial reading might be, found that classes meeting five times a week did only slightly better than those meeting three times a week. The progress of students meeting only twice a week was less satisfactory than those meeting three times a week. The authors speculated that possibly interest and skills were lost in the longer interval between meetings. They felt the most effective arrangement was a class meeting three times a week for one semester.

Of course, the above study and the resultant optimal time recommendations relate to the seriously disabled reader and not the reader with mild skill deficiencies who would comprise the Ventura short term reading program. However, since the study by Woolf & Woolf discussed here indicated that a student can profit almost as well from three days of instruction as five, it might be recommended that students in the short term program need only be away from their English classes two or three days a week for an unspecified time, rather than completely transferring into the reading laboratory for five days a week as originally conceived. This would almost eliminate the problem of a student missing out on whole blocs of work.
assignments in English thus creating wide continuity gaps as well as creating a grading dilemma.

**Materials and methods.** Using Graham's (1969) study of secondary school reading programs in California as a standard, Ventura's reading laboratory must be considered fairly well equipped. Graham's study showed 75% of the programs used multi-level kits such as the SRA Power and Rate Builders, the Reading For Understanding, and the Study Skills kits. Most programs used a variety of mechanical devices. The controlled reader was used in 84% of the programs, the tachistoscope in 72%, tape recorder in 80%, and reading films in 45%. Over the course of the Ventura program each of these materials has been used in varying degrees.

As for individual teaching methods in the Ventura program over the five year period, it seems that once a student's schedule of remediation is mapped out, the program becomes almost self-perpetuating. The learner pursues his schedule of activities while the teacher is there to offer support, encouragement, reinforcement, and continuing direction. Outside of teacher personality and overall rapport, the other variables would appear rather constant. Perhaps this accounts for the relative evenness of percentile gains despite an involvement of five reading teachers during the period evaluated. The continuity of program purpose must also be credited for this consistency of gain.
Inasmuch as only five reading teachers have been involved in the program at Ventura in the past five years, it earlier seemed an intriguing possibility to devote a portion of this study to an examination of teacher differences and how they related to the various score differentials. It soon became apparent that the magnitude of the undertaking would require much more than the small portion that could be allocated to it in this paper. Therefore it must remain a point of interest until dealt with fully by another researcher.

The major point of inquiry in such a study would be to determine whether a particular type of classroom environment would be more conducive to reading remediation. Certainly each of the five Ventura reading teachers, according to their personality makeups, established varied classroom tones and climates which conceivably ranged from directive to non-directive; from mildly autocratic to laissez faire. In fact, the tone and climate conceivably changed from one reading section to another.

A full scale study would be needed to explore these ramifications. The personality of the particular class and the individual learner usually dictates the instructional method. The importance of designing the effective instructional method for the particular class or student is clearly indicated in a study by Kagan, Sontag, Baher and Nelson (1958). They found that:

1. Compulsive children do better than less compulsive
children under structured conditions.

2. Compulsive children are neither favored nor
disfavored when teaching is unstructured.

3. Anxious children do as well as non-anxious
children under structured conditions.

4. Anxious children have their achievement impaired
in unstructured settings.

The importance of a teacher's being aware of these
instructional changes is seen in the Ventura program.
Here a teacher may meet one period with a Basic Reading
group consisting of many anxious and compulsive learners,
and the following period play host to a Reading Improve­
ment group manifesting little or none of these patterns.
The entire problem is compounded when some classes
produce a mixture of these learning types. Regarding
this diversity in a class Stern (1968) suggests that,
"At least as many students feel dissatisfied, frustrated,
or anxious in a nondirective classroom as consider it
valuable."

There is some evidence that the type of classroom
environment established by the instructor makes little
difference in the learning achievement of students.
Stern studied 34 college classes and concluded, "In
general it would appear that the amount of cognitive
gain is largely unaffected by the autocratic or demo­
crative tendencies of the instructor." He found that the
majority of investigators, at both the high school and
college level, who have attempted to measure differences in achievement report no particular advantage for either approach. This finding may explain why the pattern of percentile gains over a five year period remained fairly even despite the intrusion of five disparate teacher personalities.

In a comparison of democratic, laissez-faire and structured groups, Sykes (1966) found no immediate difference in pre- and posttest gains. When the groups were tested two years later the structured group showed higher gains in reading comprehension and overall reading improvement scores. Further studies of this problem should be made.

The SRA Reading Laboratory might be considered the bulwark of the Ventura program. Its multi-level aspect allows for growth development and the capacity for individualizing instruction.

The effects of an SRA lab on reading quotient and verbal reasoning were the objects of a twelve week study with experimental and control groups (Pont, 1966). It was found that both experimental and control groups made significant gains, but the increase was significantly greater in the experimental group. The author stated that the laboratory appears to be especially suitable for use in the teaching of reading comprehension where the aim is to bring a student quickly up to the level at which he can again join his regular class.
To complement the multi-level kits, the Ventura laboratory possesses a better than adequate selection of so-called machine hardware, consisting of controlled readers, tachistoscopes, and pacers. In 1965 when the lab was renovated, hardware such as these mentioned were reaching a peak of popularity. They had yet to be subjected to the scrutiny of serious research by the experts to assess their logical place and worth in a reading program. As a result of this, equipment was too often looked upon as a panacea and became the principle method of remediation for many programs.

Lately, more and more research is revealing that perhaps an inordinate amount of emphasis has heretofore been placed upon the machine as a remediation instrument. (Bormuth & Aker, 1967; Jones & Carron, 1965; Flatt, 1966; Long, 1965; McDowell, 1964). Because of the critical research now revealing shortcomings in the previously sacrosanct machine hardware, the Ventura laboratory of 1969-70 and 1970-71 has become increasingly wary and selective in its use of tachistoscopes, pacers, and accelerators. It would not be inaccurate to state that the past two years at Ventura has seen less reliance on machines than the first three years. As a matter of fact, a recent survey of 246 college reading programs (Geerlofs & Kling, 1968) found that workbook materials were being emphasized more than machines.

The average mean percentile gains in comprehension
for the total group at Ventura reached 15 points in 1969-70 and 15 for only the first semester of 1970-71. In light of the admittedly reduced reliance upon machines these gains, contrasted with 12 point gains in 1965-66; 16 in 1966-67; 11 in 1967-68; and 15 in 1968-69, would generally tend to support the research findings that machine remediation fails to improve comprehension any more than the traditional workbook techniques.

Typical of these studies is Barbe's (1965) which found that in 11 of 12 investigations which measured natural reading against machine reading, the groups that received training in the former either equalled or surpassed the machine groups in rate of reading and comprehension. Barbe deduced from these data that the outcomes similar to those achieved through the use of special machine instruments could as readily be expected from suitable reading instruction which does not include these same instruments.

Long (1965) compared a printed materials approach with a machine centered approach in improving the reading efficiency of college students. It was established that printed materials and mechanical devices appeared to be equally effective in producing gains for reading rate and comprehension. However, printed materials seemed more effective than the tachistoscope and the controlled reader for improving paragraph comprehension. In another study matching machine with
book centered training methods the results showed both
groups doubling gains but there were no significant dif­
ferences between machine gains and the book centered
program (Jones & Carron, 1965).

The Ventura program has used the tachistoscope
(flash X and tach X) on a regular basis for eye training.
But as a result of recent research in the area, the amount
of time invested in tachistoscope exercises is being re­
evaluated by the reading department.

The long held theory that a cause and effect rela­
tionship obtains between eye movement and reading pro­
ficiency is being challenged. Cleland (1968) calls eye
training a fallacy. He maintains, "The determinants of
reading performance are the central-method processes of
perception and comprehension rather than the peripheral
factors such as oculomotor factors."

A report given at the 32nd Claremont Reading Confer­
ence viewed eye movements as neither the cause nor the
effect of good or poor reading. It was maintained that
the eyes do not dictate to the mind what it shall compre­
hend, nor does the mind tell the eyes where it shall look.
There is apparently an interaction between oculomotor
activity and the central mental activity associated with
reading, but there is no cause and effect relationship
(Taylor, 1968).

Tinker (1968) is also aligned with the critics
arguing against the notion that speed begets comprehension.
He too feels that the central processes are the important determinants in reading performance. The oculomotor reactions, being exceedingly flexible and instantaneous, simply reflect any changes in reading skill, perception, and comprehension -- they do not cause them.

If this compelling argument is valid then reading teachers may be trying to train the cart to push the horse. The rationale for tachistoscope eye training has generally been the following:

1. to train the eye to better perceive word groupings for comprehension purposes.
2. to improve eye reflex action for greater speed.
3. to create a visual memory for words and phrase structures.

According to Tinker the tachistoscope is without value for achieving any of the above purposes. Any claims of increased eye speed and rate of reading by tachistoscopes and pacing instruments he attributes to the increased motivation caused by the Hawthorne effect.

In addition to the reservations revealed by investigations above, the reading department at Ventura also holds certain reservations about the effectiveness of the tachistoscope. Their experience shows that whether or not the device actually aids in increasing speed and comprehension, the novelty value alone of the instrument may justify its selective use, by increasing motivation
and interest. The student, it seems, enjoys the challenge and achievement of identifying digit, word, or phrase exposures at speeds up to one-one hundredth of a second. Perhaps anything which tends to instill confidence and generate a sense of accomplishment is worth a ten minute session some three days a week, whether it does what it purports to do or not. Rather than relegate the tachistoscope to the role of placebo extraordinaire, further investigation is warranted. It is suggested that the Ventura reading department, with its available facilities, launch its own controlled experiment in this area.

According to Graham's questionnaire, 48% of the reading programs in California use the Controlled Reader. At Ventura, seven Controlled Readers are in operation in each of the reading labs. Only recently has any extensive research been completed on these and other related instruments principally designed to increase rate of reading.

Gelzer & Santore (1968) studied five different reading groups given two six-week sessions in:

1. Controlled Reader -- guided slot.
2. Controlled Reader -- open slot.
4. Rateometer.
5. Timed Reading Group (working against clock with printed materials).

The results proved interesting and highly informative inasmuch as the Ventura program had utilized all of these
At the conclusion of the course the Controlled Reader Guider Slot was the only group which showed a rate increase.

The Timed Reading, Rateometer, and Shadowscope groups also made gains during the program; but they were unable to sustain the gains 11 months later.

Of major interest was the finding that comprehension gains were made by only the Controlled Reader Guided Slot group. The gains made were also retained after the eleven month period. In addition, the Controlled Reader Guided Slot was the only machine able to significantly improve reading performance in the area of number of fixations, regressions, span of recognition and duration of fixation. The others recorded rate increases, but no great reduction in number of fixations and regressions.

Surprisingly, even more fixations and regressions were produced with the use of the Rateometer and Shadowscope. The conclusion held was that these instruments were simply ineffective in improving perceptual efficiency and directional attack.

Another one semester study of college freshmen
centered on the comparison of four instructional methods—tachistoscope, Controlled Reader, controlled pacing and paperback scanning, in which the individual was required to scan a page under time pressure. A control group received standard instruction in freshmen English (Braam & Berger, 1968).

At semester's end all methods showed significant gains in speed. However, posttests detected no change in the all important comprehension level for any of the groups. The paperback scanning method was deemed superior in producing increased reading rate in both long and short passages. In fact the reading rate was three times better with the paperback scanning.

The paperback scanning method was considered more effective because it more closely resembled normally read material of normal size type at the regular reading distance. It was suspected that the machines presented somewhat of an artificially contrived situation.

A study found that college students read significantly faster on a reading test when simply urged to increase their rate (Maxwell & Mueller, 1967). The subjects were given a handout describing techniques for improving reading speed and admonished to practice daily for a week. A posttest showed that these students read significantly faster without losing comprehension than did a control group using hardware. This raises the question of how much of the reported gains in reading programs are the
function of suggestion rather than training and practice on oftentimes expensive machinery.

The authors suggest the possibility of effecting significant reading rate improvement without loss of comprehension by merely suggesting that students practice a few simple techniques. The gains obtained by this method, they maintain, are equivalent to pre-post changes reported by longer, more traditional college reading programs.

The implications of these studies are enormous. In these days of skyrocketing costs and ensuing economy measures, reading departments must decide whether well-motivated programs using ordinary materials can be as effective as programs using costly, sophisticated hardware.

There is substantial evidence that rate gains made on machine hardware do not transfer to other reading materials and situations; even more so, any gains made are transitory and not lasting. Perhaps major concentration should be on comprehension, with speed only a minor adjunct.

SUMMARY

1. Method of glection. Only the non-language of the Lorge-Thorndike and the non-verbal section of the CTMM should be scored when estimating student IQ prior to assignment of a priority classification.
2. **Tests.** The Slosson Intelligence Test or the Quick Test should be available and counselors to administer in cases where standardized group mental ability tests may have militated against the poor reader.

3. **Orientation.** The procedure should be re instituted whereby all counselors and potential reading students should be briefed on the total operation of the reading program.

4. **Transfer system.** A mildly disabled reader could transfer from an English class into the reading laboratory for short term instruction. Upon remediation the student would return to the English class with full credit for time away.
CHAPTER V

SUMMARY AND CONCLUSION

In conclusion, this paper has endeavored to evaluate a rather typical secondary school reading program. Statistical data were gathered and assembled for a total of 781 students over a five-year period ranging from 1965 to 1970.

The primary thrust of this investigation centered on finding information relative to answering basic questions in the following areas:

1. Basic Reading group versus Reading Improvement group. Was there a substantial difference in the amount of reading gains made by each of the groups? Was the Basic Reading group, identified in the Ventura program as the most seriously disabled, able to progress as rapidly and as far as the less disabled Reading Improvement group?

2. Performance by grade in school. Was any one grade level, 10, 11, or 12, performing consistently better than the other? Was grade level a factor when selecting students into the reading program?

3. Vocabulary versus comprehension results. Was there a balance in the gains made in these respective areas? Was the vocabulary development
portion of the program keeping pace with the comprehension?

4. **Boys versus girls.** Was the program meeting the reading needs of both sexes? Were there differences in performance? How could any differences be accounted for?

5. **Semester versus year results.** Was one semester of remediation as good as two? Might it be possible to identify the optimal time duration required for remediation?

6. **Selection of students into the program.** Was the priority system of selection both adequate and equitable? Was the method of identifying potential reading students efficient and accurate?

An evaluation of the data was able to provide a number of satisfactory answers to these basic questions. The remainder of this paper will examine the conclusions to be tentatively drawn from these findings.

1. As regards the Basic Reader -- Reading Improvement reader question, the results point to the conclusion that the better readers initially will probably profit most from instruction. Their gain will be greater and achieved in less time.

   However, even if the more disabled Basic Reader is unable to progress as spectacularly as the Reading Improvement reader, he still needs
the opportunity to develop his skills and should
be given top priority in the program.

The research findings indicate that the
severely disabled reader requires a more complex,
in-depth form of diagnosis. It can be concluded
that if the reading teacher were able to over­
come the very real limitations of time and
excessive class size, and perform what would be
tantamount to a clinical diagnosis with the
ensuing specific remedial treatment, then the
disparity in amount of gain between the two
groups might conceivably be reduced.

2. Because all three grade levels, sophomore, junior,
and senior, achieved approximately the same amount
of gains, it would seem to indicate that age is
not a factor to consider when selecting high
school students into a reading program.

Inasmuch as the twelfth-grade readers con­
sistently scored higher in vocabulary over the
five-year period, it was speculated that age may
be a factor in acquiring vocabulary knowledge.
Perhaps, all instructional factors being equal,
verbal sophistication is dependent upon exposure
to the language. That the senior has had a
year or two more language experience than has
the underclassman, may account for the better
performance.
3. Seemingly little can be concluded from the vocabulary-comprehension comparative scores. Although vocabulary gains exceeded those of comprehension during the first four years, the last year and one semester has witnessed a reversal of this trend with no apparent reason. It would be desirable if a parity could be accomplished in the performance scores of vocabulary and comprehension.

4. Both boys and girls achieved gains in all areas, with neither sex group performing significantly better than the other. It was therefore concluded that the program had met the unique needs of both groups.

   In planning future reading programs it should be noted that more than twice as many boys than girls were involved in the Ventura reading program over the five-year period. This 2:1 ratio seems to be characteristic of secondary school reading programs.

5. The 1970-71 one semester Basic Reading group scored greater mean gains in the one semester than the previous groups were able to record in a year's time. This tended to corroborate much of the research which implied that the first time unit was the most productive. Despite the temptation of concluding from this that students
should enroll for only one semester of reading, certain extenuating circumstances prevent this.

A most compelling consideration is the fact that there is a marked decrease, or even stagnation, in the rate of growth in reading unless remedial instruction is continued. So, even if the first semester gains are not matched the second, at least the maintenance and retention of the growth will be assured. It must therefore be concluded that remedial readers be encouraged to enroll for at least a year of reading instruction.

In an effort to forestall second semester ennui, which some experts feel is responsible for reduced results, it was concluded that a change in routine and materials would prove beneficial in maintaining momentum and providing for continued gains and improvement in the second semester.

6. One major aspect of the priority system of selection, wherein a student scoring 90 or below on a mental test was relegated lowest entrance priority into the program, was deemed inappropriate. This conclusion was drawn as a result of consistent research findings indicting many group standardized mental tests as being essentially reading tests, therefore preventing
the poor reader from demonstrating his true
teach mental ability.

More accurate identification of potential
reading students would occur if only the non-
language, non-verbal scores of the mental
measurement test were used. In this way, a more
precise prediction of a student's reading
expectancy would result. The poor reader would
not be confused with the slow learner and denied
priority admittance into the program.

In summary, it is believed that the results of this
evaluation have proved the effectiveness of remedial
instruction at the secondary level. The need for systema-
tic reading instruction has always existed, but has been
sorely minimized at the high school level. This despite
the fact that reading still appears as the principal cause
of failure at all academic levels -- elementary, secondary,
and college.

This research study indicates the positive results
that can be obtained in a high school reading program.
It also indicates the need for a concentration of ener-
gies in determining which worthwhile objectives and pur-
poses need now be pursued in maintaining and developing
a steady growth of the program.
REFERENCES


Karlin, R. What does research in reading reveal about reading and the high school student. English Journal, 1969, 58.


Long, R. A printed materials-centered approach compared with a machine-centered approach for improving the reading efficiency of college students. ERIC, 1962, ED 011 486.


Marquis, B.F. Developmental reading New Albany High


Pescosolido, J. The identification and appraisal of certain major factors in the teaching of reading. ERIC, 1965, ED 012 693.


Ryans, D. Some relationships between pupil behavior and certain teacher characteristics. Journal of Educational Psychology, 1961, 52, 82-90.


Simmons, J. Comparison of a theoretically sound reading program with current practices of secondary schools in the upper mid-west. ERIC, 1962, ED 010 758.


Squire, J.R., & Applebee, R.K. A study of English


Traxler, A. Sex differences in comprehension among junior high school students. Education, 1969, 89.

Weppner, D. Reading in grades seven, eight, and nine: A statistical evaluation and a normative survey. Dissertation Abstracts, 1965, 27, 60-A.

Wilson, R.M. Diagnosis and Remedial Reading for the Classroom. Columbus, Ohio: Merrill, 1967.
