The programs described in this report, including the South Mountain High School Reading Program, the Carl Hayden High School Reading Program, the Phoenix Union High School Reading Program, the South Mountain High School Saturation Guidance and Counseling Program (SGCP), the Work Incentive Program (WIN), the Phoenix Union High School Star Reach Program, and the South Phoenix Area Cultural Enrichment Program, typically attempted to raise the level of academic achievement of groups of either high school or adult students through a combination of reading skills instruction and counseling. Although individualized treatment was used, students were typically organized into groups—i.e., remedial, corrective, accelerative—where common needs existed. Program benefits are typically indicated by an increase in student group average score on a standardized reading test following the course of instruction. At least one program—SGCP—attempted to modify the self image of its students. Project WIN, financed by the Employment Security Commission, was aimed at adult welfare recipients from disadvantaged backgrounds. (JM)
"In the past few months you've come up with any number of tentative theories and a great number of hypotheses. When do you plan to get down to brass tacks?"

RESEARCH AND PLANNING
August 21, 1969
<table>
<thead>
<tr>
<th>Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Mountain High School Reading Program</td>
<td>2</td>
</tr>
<tr>
<td>Carl Hayden High School Reading Program</td>
<td>11</td>
</tr>
<tr>
<td>Phoenix Union High School Reading Program</td>
<td>19</td>
</tr>
<tr>
<td>South Mountain High School Saturation Guidance and Counseling Program</td>
<td>25</td>
</tr>
<tr>
<td>Work Incentive Program (WIN)</td>
<td>39</td>
</tr>
<tr>
<td>Phoenix Union High School Star reach Program</td>
<td>48</td>
</tr>
<tr>
<td>South Phoenix Area Cultural Enrichment (SPACE)</td>
<td>51</td>
</tr>
</tbody>
</table>
PHOENIX UNION HIGH SCHOOL SYSTEM FEDERAL PROGRAMS EVALUATION

INTRODUCTION

It is becoming increasingly more important to objectively evaluate the programs funded by the Federal Government. The day when the Federal Government will apportion money for education without good evaluation as an integral part is fast reaching its sunset. Additionally, Phoenix Union High School System staff and Board should no longer be willing to expend money for programs without the assurance of good evaluation.

The importance of evaluation rests on the following assumptions:

1. The parties responsible for expending funds are demanding better evaluation.
2. The objectives of the Federal programs should be catenated with district philosophy and objectives.
3. Most Federal programs are experimental in nature and should be dropped, changed or continued without change only on the basis of sound evaluation.
4. Most administrators and staff of the Federal projects are vitally concerned with a measurement of their success so they can better serve the students they contact.

The purpose of this study was to evaluate each Federal program connected with Phoenix Union High School System during 1968-69. Hopefully, future studies can emphasize more process evaluation than this one did.

In this report, each project is treated separately, even though several are similar, such as the reading programs at Carl Hayden High School, South Mountain High School, and Phoenix Union High School. A general format for each project was followed to first enumerate the objectives, briefly describe the program, describe the evaluation procedures, present the evaluation data, indicate some conclusions, and finally to state the implications. With these general guidelines in mind let us consider the various Federal programs and their effectiveness.
Objectives

Objectives of the South Mountain Reading Program were outlined by the coordinator of the program as follows:

1. To make possible individualized, student centered, diagnostic and remedial reading teaching which meets the needs of the pupil and develops pupil's reading ability.
2. To develop reading skills necessary for a successful and meaningful high school career.
3. To provide our youth with reading experiences that will be meaningful and stimulating to the pupil.
4. To provide reading experiences and skills designed to raise cultural standards, understandings, and enjoyment on the part of the participating youth.
5. To provide a program of reading instruction designed to instruct each pupil at his level of achievement and to continue this instruction as it is needed throughout his entire high school career.
6. To demonstrate to these pupils through successful growth in reading that they can achieve success in other curricular areas.
7. To provide reading experience of an imaginative nature which promotes the oral manipulation of language.
8. To support the Saturation Guidance Program and objectives as follows:
   a. By providing reading experiences which supplement and re-enforce the guidance and instruction of the
Counseling Services of the Counseling Department.

b. By providing reading experiences which will promote reading growth and which will enable the pupil to broaden his vision, raise his aspirations and stimulate his determination toward successful educational growth.

c. By providing reading experiences which promote better secondary school attendance, the achievement of educational goals, persistence to graduation from the secondary school, and motivation to attend the community college.

d. By providing reading instruction which will enable the pupil to make more realistic choices of courses of study which are available to him.

e. By providing the pupil with reading experiences such that with adequate guidance, motivation, and direction he can be instructed and/or can instruct himself to the acquisition of salable vocational skills.

Program Description

To accomplish these objectives, a staff of reading specialists was employed. The staff this past year included 7-1/3 reading teachers (two paid by district funds), two secretarial/clerical persons, one teaching chairman, two instructional aides, and one para professional person.

The staff organized procedures for meeting the prescribed objectives. All Freshmen were required to enroll in saturation reading and, through
screening tests given at the beginning of the year, they were assigned to three levels of treatment: remedial, corrective, or accelerative. (The tests, by the way, were verified by interview, individual testing, and diagnostic teaching. Some rescheduling of students was the result.) Sophomores, Juniors, and Seniors either elected to continue in saturation reading or were referred by teachers or counselors. All groups for other than Freshman students were remedial and/or corrective.

Impetus was given to individualized diagnosis and instruction, but students were organized into groups (remedial, corrective, accelerative) where common needs existed. Hence, individualized and group instructional methods were used. Reading skills that were taught or teaching techniques used included: individualized oral instruction, phonics, word attack, comprehension skills, vocabulary development, word recognition, rate of comprehension, study skills, library skills, listening skills, oral manipulation of language, library and reference skills, imaginative reading, critical reading, skimming and scanning, and interpretive reading.

Reading equipment available and used included tape players, recorders, pacers, ratemeters, tachistoscopes, tachettes, tach-x, controlled readers, and films.

Table I indicates the number of students served.

Evaluation Procedures

A considerable amount of internal evaluation occurred at South Mountain. Teachers were asked to evaluate their courses periodically in writing and met frequently to discuss possible improvements. Tests, both teacher-made and standardized, were used to measure pupil growth and to diagnose reading difficulties. School library usage was checked to see
## TABLE 1

**SOUTH MOUNTAIN HIGH SCHOOL READING PROGRAM**

**STUDENTS SERVED**

**1968-69**

<table>
<thead>
<tr>
<th>Year in School</th>
<th>Complete</th>
<th>Drop</th>
<th>Re-enter</th>
<th>Transfer</th>
<th>Entries</th>
<th>Grads</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accelerated</td>
<td>175</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrective</td>
<td>188</td>
<td>32</td>
<td>3</td>
<td>19</td>
<td>12</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>Remedial</td>
<td>326</td>
<td>64</td>
<td>10</td>
<td>30</td>
<td>38</td>
<td>468</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>13</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Non Public Schools</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>57</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>759</td>
<td>107</td>
<td>14</td>
<td>58</td>
<td>61</td>
<td>999</td>
<td></td>
</tr>
<tr>
<td><strong>Sophomores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial-Corrective</td>
<td>19</td>
<td>38</td>
<td>6</td>
<td>13</td>
<td>63</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non Public Schools</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>College Bound Reading</td>
<td>1</td>
<td>3</td>
<td></td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>44</td>
<td>42</td>
<td>6</td>
<td>14</td>
<td>69</td>
<td>175</td>
<td></td>
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<tr>
<td><strong>Juniors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Remedial-Corrective</td>
<td>15</td>
<td>25</td>
<td>1</td>
<td>6</td>
<td>28</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
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<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td></td>
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<td>Non Public Schools</td>
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<td></td>
<td></td>
<td></td>
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<td>11</td>
</tr>
<tr>
<td>College Bound Reading</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27</td>
<td>28</td>
<td>1</td>
<td>7</td>
<td>31</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td><strong>Seniors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remedial-Corrective</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>12</td>
<td>23</td>
<td>4</td>
<td>69</td>
</tr>
<tr>
<td>Non Public Schools</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>34</td>
</tr>
<tr>
<td>College Bound Reading</td>
<td>5</td>
<td>2</td>
<td></td>
<td>2</td>
<td>5</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>51</td>
<td>16</td>
<td>2</td>
<td>18</td>
<td>28</td>
<td>4</td>
<td>119</td>
</tr>
<tr>
<td><strong>Total-Total</strong></td>
<td>881</td>
<td>193</td>
<td>23</td>
<td>97</td>
<td>189</td>
<td>4</td>
<td>1387</td>
</tr>
</tbody>
</table>
if students were reading non-required books. A benchmark student question-
naire was used to determine student interests and needs in reading improve-
ment.

The criterian test used to determine whether or not gains in reading
were made was the Davis reading test, given in three different forms as
a pre, progress, and post test. It should be noted that any test is only
a sample measurement of the total activities that occurred and this factor
is particularly true in a reading program where not only is the world of
symbols developed, but the world of experiences as well.

A critical ratio test of significance was applied to the data on all
three tests (pre, progress, post) to check statistical significance. Only
those Freshman students who completed all three tests were used in this
comparison, thus eliminating the possible biased effect which drop-outs or
late entries may have had on the mean scores. (See Table 2) The 95 percent
confidence interval was selected as the interval for determining statistical
significance.

A further analysis of the Davis test was made to determine the possible
quartile percentage changes as compared with the National percentile rank-
ings. (See Table 3)

Evaluation Data

Table 2 shows the results of the Davis Reading test for both level
of comprehension and speed given on three different occasions (pre, progress,
post). The pre-test was given in September, the progress in January, and
the post test in May.

A first glance may indicate that the mean scores are not significantly
high on the progress and post as compared with the pre-test, but all means
are significantly greater for the progress and post tests with the
### SOUTH MOUNTAIN HIGH SCHOOL

**Davis Reading Test**

#### LEVEL OF COMPREHENSION

<table>
<thead>
<tr>
<th>TESTS</th>
<th>NO. OF STUDENTS</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>CRITICAL RATIO</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre (9/68)</td>
<td>594</td>
<td>61.9</td>
<td>7.6</td>
<td>3.78 (Tests 1 &amp; 2)</td>
<td>at 5% level</td>
</tr>
<tr>
<td>2. Progress (1/69)</td>
<td>594</td>
<td>63.6</td>
<td>7.8</td>
<td>2.08 (Tests 2 &amp; 3)</td>
<td>at 5% level</td>
</tr>
<tr>
<td>3. Post (5/69)</td>
<td>594</td>
<td>64.1</td>
<td>9.0</td>
<td>4.54 (Tests 1 &amp; 3)</td>
<td>at 5% level</td>
</tr>
</tbody>
</table>

#### SPEED OF COMPREHENSION

<table>
<thead>
<tr>
<th>TESTS</th>
<th>NO. OF STUDENTS</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>CRITICAL RATIO</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre (9/68)</td>
<td>594</td>
<td>62.2</td>
<td>7.1</td>
<td>4.67 (Tests 1 &amp; 2)</td>
<td>at 5% level</td>
</tr>
<tr>
<td>2. Progress (1/69)</td>
<td>594</td>
<td>64.3</td>
<td>8.2</td>
<td>1.21 (Tests 2 &amp; 3)</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3. Post (5/69)</td>
<td>594</td>
<td>64.9</td>
<td>8.7</td>
<td>5.81 (Tests 1 &amp; 3)</td>
<td>at 5% level</td>
</tr>
</tbody>
</table>
TABLE 3

SOUTH MOUNTAIN HIGH SCHOOL

DAVIS READING TESTS
Level of Comprehension - Speed of Comprehension
Pre-Test - Progress - Post Test
QUARTILES

<table>
<thead>
<tr>
<th>Percentile</th>
<th>National Norms</th>
<th>Comprehension Level</th>
<th>Comprehension Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pre Test</td>
<td>Progress</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentile 4</td>
<td>Quartile 4</td>
</tr>
<tr>
<td>100</td>
<td></td>
<td>15%</td>
<td>21%</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td>22%</td>
<td>27%</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>41%</td>
<td>30%</td>
</tr>
</tbody>
</table>
exception of the gains made on the speed section of the test from January to May.

Table 3 shows how much these seemingly small gains can change the percent of students falling in each quartile of the nationally normed group. On the pre-test level of comprehension, 41% fell in Q-1, while one could expect only 25% to score in that group. At the same time only 15% scored in the top quartile. On the post test level of comprehension, 26% scored in the top quartile while the 41% dropped to 31% in Q-1. The Reading speed scores indicated a like improvement, but even more pronounced. Sixteen percent of South's Freshmen scored in the top quartile while 38% fell in Q-1, far below the national norm. However, at the end of the year, 30% scored in the top quartile and 28% scored in Q-1. Not only did the group of Freshman students who took the Davis test come up to the national norm, but even surpassed it.

South students were asked how many books they read which were not required. During 1967-68 they indicated an average of 6.4 books per year, while during 1968-69 that figure increased to an average of 23. By the way, the approach of asking students how many books they read might come under serious question in terms of validity. A verification check was made with the South High School Librarian as to how many books were checked out of the Library. Surprisingly a difference of less than 10% was noted in the two methods.

A post questionnaire was given to students, the results of which proved interesting. Seventy-five percent of the students thought they were better able to get meaning from reading in other school subjects, while a like percentage believed they gained better reading speed. Fifty-five percent indicated they enjoyed reading more than they did prior
to the reading program. More positive responses as to the value of the reading program were noted in 1968-69 than in 1967-68 when the same questionnaire was given.

Conclusions

1. A hard-working and devoted staff have succeeded in accomplishing most of the reading program objectives at South Mountain High School.

2. Subjective evidence indicates that the reading program at South is producing better results than in years past. Students are reading more books, are more interested in reading, and believe that the reading program is beneficial to them in all their school work. Teachers have become more experienced in diagnosing reading difficulties and treating deficiencies.

3. Objective evidence (Standardized tests) indicates that students are in fact reading better (besides enjoying it more) and have made gains from far below a nationally normed group, to surpassing it.

Implication

1. The reading program at South should be continued. Students come into it with reading abilities far below the students with whom they will compete, and are helped by it.

2. The past two or three years have been developmental years for the staff at South. Hopefully, flexibility in the program will continue.

3. It is doubtful whether we can expect the same results if funds are reduced as they have been in the past three years. Considering that less money has been expended in 1968-69, the gains seem even more remarkable.
Objectives
The objectives for the Carl Hayden High School reading program were outlined by the project coordinator as follows:

1. To provide individualized and small group reading instruction for students from an area of socio-economic and cultural deprivation.

2. To expand the limited experiential backgrounds of Carl Hayden High School students, and to attempt to raise their aspirational goals.

3. To help content area teachers become aware of the wide range of student reading levels within their classes and to encourage these teachers to provide instructional materials at several reading levels.

4. To provide Reading Consultant services to content area teachers in order to extend the teaching of reading and study skills into the regular high school curriculum.

5. To directly confront the problem of a high student dropout rate and to try to develop more effective methods for encouraging students to remain in school.

6. To encourage the Carl Hayden reading teachers to continue to prepare themselves to more adequately teach reading to disadvantaged high school students.

7. To provide health services and free lunches for selected students during the second semester, 1968-69.

Program Description
To meet these objectives procedurally, the reading staff developed an instructional program requiring all Freshmen to enroll in reading
classes. Additionally, 10th, 11th, and 12th grade students who needed remedial or corrective reading instruction were included in the program.

Standardized test results, followed by individual diagnostic testing, was used to initially place students in instructional groups - Accelerated, Corrective, or Remedial. Individual diagnostic reading tests were administered to all ninth grade students enrolled in the Occupational Education program. Special reading classes, taught by reading teachers academically qualified to teach mentally retarded students, were offered to those Occupational Education students who could benefit from reading instruction. About twenty Freshman Occupational Education students were enrolled in these special reading classes.

A wide variety of cultural enrichment activities and materials, such as audio-visual materials, guest speakers, educational field trips, and other community resources, were incorporated within the reading program. One might question a Johnny Cash rendition of "Ballad of Ira Hayes" in a reading class, but a major guiding philosophy, particularly at Carl Hayden, was to stimulate the youngsters with material familiar to them and then advance into related but unfamiliar material. It was believed that many students at Carl Hayden needed experiences in the "real world" before they could grasp the world of symbols. After all, it makes little sense to teach a youngster in rote fashion the word "COW" from the world of symbols if the same youngster has no experience or possesses no reference point to the actual four-legged animal from the real world. Reading, then, at Carl Hayden was viewed as a process of teaching both worlds.

Content area teachers are provided with information pertaining to the instructional reading levels and the particular reading difficulties
of the students enrolled in their classes. Another service provided to content area teachers was that readability levels of required textbooks was determined.

An in-service workshop emphasizing communication skills and individual needs of students was conducted for English and reading teachers.

A pilot program was initiated in September, 1968, in which a reading teacher worked with science and history teachers in their classrooms. The reading teacher administered diagnostic reading tests, assisted in individualizing instruction and provided appropriate instructional material at several levels of reading difficulty.

An experimental program for potential dropouts was initiated in September, 1968. Twenty students were scheduled into the same English, biology, and reading classes. The reading teacher attempted to coordinate the reading instruction with the content area material. A direct attempt was made to change the poor attitudes the students have toward school. It was hypothesized that a group cohesiveness would develop that would provide the students additional motivation to remain in school.

An Opportunity Room was established in March, 1969. Students who were suspended from school spent their time in the Opportunity Room instead of leaving campus entirely. In the Opportunity Room students worked on their regular class assignments and had the opportunity to keep up with their course work. Frequently a student who had been suspended felt so far behind in his class assignments that he became discouraged and dropped school.

Some of the teaching methods used by Carl Hayden reading teachers this year were team-teaching, more extensive use of audio-visual materials and cultural enrichment materials, and the development and application of
teacher-made units of instruction.

Some students were provided health services and free lunches. Those students who received these services did not receive similar services from other state or local agencies. The students were recommended by the counselors or school nurse and screened on a basis of financial need.

Nine and one-half teachers taught reading at Carl Hayden to 804 students (Month 1, ADA period) and to 778 students (Month 6, ADA period). Forty and 39 sections were organized during the 1st and 2nd semesters, respectively.

**Evaluation Procedures**

The criterion test used to determine the amount of reading growth was the Davis Reading Test. Like any test, the Davis test represents only a sample measurement of the total activities which occurred.

As with the case of South Mountain, only those Freshman students who completed all three tests were included in the analysis, thus bias, which may have occurred because of student turnover during the year, was eliminated.

In addition to the comparisons of mean gains from September to January to May, an analysis was made of the changes in the percent of Carl Hayden High School students falling in each quartile (national norm).

One part of the reading program (objective #5) was to reduce the drop-out rate. A specific treatment was applied for 20 youngsters who were randomly selected from a larger group of students identified as potential drop-outs by teachers and counselors. The 20 students, selected in the Spring of 1968, were told about the new program, which basically was a block of time set aside for these students for biology, English, and reading. The reading teacher worked with the other two teachers in helping to identify student reading problems and solving them. Careful records were kept of the attendance, drops, and registrations of these
youngsters. An analysis of these results is included in the following section.

Critical ratios were used to test for significance and the 95 percent confidence interval was selected as the criterion for determining significance.

**Evaluation Data**

In Table 4 the means, standard deviations, critical ratios, and statistical tests of significance are shown. All gains are statistically significant at the .05 level of confidence with the exception of the mean gain from January to May in Level of Comprehension. Compared with the national norming group, Carl Hayden's Freshmen scored considerably lower on the pre test but equally as high or higher on the post test. (Table 5). In the comprehension level section of the test, only 12% scored in the top quartile on the pre test while 38% scored in the lowest quartile. However, nine months later, 25% scored in the top quartile and 26% scored in Q-1, almost a matched distribution with the nationally normed group. In the Speed section of the test, the gains are even more pronounced. Only 13% scored in Q-4 and 29% scored in Q-1 on the pre test, but those percentages changed to 34% and 20% respectively on the post test.

The 20 students selected from a larger population as potential dropouts did in fact have fewer unexcused absences (average of 5.8 first semester and 7.0 second semester as compared with 10.3 first semester and 15.7 second semester for the control group). It is interesting to note that only one of the twenty in the experimental group (5%) failed to enter or register for school while 16 of the 47 in the control group (34%) did not ever start school. A motivational factor for letting the experimental group know that they were to receive a special program was evident.
CARL HAYDEN HIGH SCHOOL
Davis Reading Test

TABLE 4

LEVEL OF COMPREHENSION

<table>
<thead>
<tr>
<th>TESTS</th>
<th>NO. OF STUDENTS</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>CRITICAL RATIO</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre (9/68)</td>
<td>445</td>
<td>62.0</td>
<td>6.7</td>
<td>4.91</td>
<td>at 5% level</td>
</tr>
<tr>
<td>2. Progress (1/69)</td>
<td>445</td>
<td>64.4</td>
<td>7.8</td>
<td>.38</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3. Post (5/69)</td>
<td>445</td>
<td>64.6</td>
<td>7.9</td>
<td>5.26</td>
<td>at 5% level</td>
</tr>
</tbody>
</table>

TABLE

SPEED OF COMPREHENSION

<table>
<thead>
<tr>
<th>TESTS</th>
<th>NO. OF STUDENTS</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>CRITICAL RATIO</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre (9/68)</td>
<td>445</td>
<td>62.6</td>
<td>7.0</td>
<td>4.57</td>
<td>at 5% level</td>
</tr>
<tr>
<td>2. Progress (1/69)</td>
<td>445</td>
<td>64.8</td>
<td>7.2</td>
<td>2.01</td>
<td>at 5% level</td>
</tr>
<tr>
<td>3. Post (5/69)</td>
<td>445</td>
<td>65.8</td>
<td>7.5</td>
<td>6.51</td>
<td>at 5% level</td>
</tr>
<tr>
<td>Percentile National Norms</td>
<td>COMPREHENSION LEVEL</td>
<td>COMPREHENSION SPEED</td>
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<tr>
<td>---------------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Test Progress Post Test</td>
<td>Pre-Test Progress Post Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>12% 22% 25%</td>
<td>13% 25% 34%</td>
<td></td>
<td></td>
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<td>Quartile 4</td>
<td></td>
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<tr>
<td>75</td>
<td>22% 26% 28%</td>
<td>24% 26% 23%</td>
<td></td>
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<td>Quartile 3</td>
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<td></td>
<td></td>
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<tr>
<td>50</td>
<td>28% 23% 21%</td>
<td>29% 27% 20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quartile 2</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>25</td>
<td>38% 28% 26%</td>
<td>29% 27% 20%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Quartile 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

CARL HAYDEN HIGH SCHOOL

Level of Comprehension - Speed of Comprehension
Pre-Test - Progress - Post Test
QUARTILES
Three of the 20 in the experimental group dropped out of school sometime during the year (15%), while nine of the 31 youngsters (control group) who entered school dropped out sometime during the year (29%).

Conclusions

1. Carl Hayden High School youngsters have received beneficial experiences through the reading program which has not only provided help in understanding the symbolic world but has given the experiences to make the symbols more meaningful.

2. A dedicated and hard-working staff has accomplished most of the previously determined objectives.

Implications

1. The program should be continued on the basis of results it has produced. Objective evidence indicates that Carl Hayden's students come into the program reading below a national norm and are benefited by the reading program such that they even surpass the national norm after one year.

2. The drop-out rate and attendance can be improved by letting students know of the school's interest in them, developing cooperation among reading and other content area teachers, and providing the organizational structure for that cooperation to occur (block of time).
Objectives

Objectives stated in program terms by those responsible for the program include the following:

1. To provide a well-equipped reading classroom and a specially equipped English classroom in a unitary center in order that an appropriate communication curriculum can be developed.

2. To provide inservice training for teacher teams.

3. To give individualized instruction to those students whose reading performance is below age and grade level.

4. To give English instruction in the areas of language -- a standard dialect, writing, speaking, reading, and listening -- which will allow students to understand language functions.

5. To raise the achievement level of these students in language oriented subjects.

6. To effect a decline in the typical dropout rate for these students.

7. To effect a decrease in the typical absenteeism for these students.

8. To promote classroom and extra class educational experiences which will enable the student to broaden his vision, raise his aspirations, and give him knowledge of the wider culture.

9. To provide a setting for language learning that to some degree will compensate for the lack of cultural opportunity and appropriate places for study in the home and neighborhood environment.
Program Description

The program in reading was designed to increase the reading skills, improve the attitude of the students involved toward themselves, help them to improve their study skills, and increase their aspirations. It was initiated for students entering high school who had had difficulty in reading.

All Freshmen were required to enroll in reading; upper-class students were selected on the basis of the teacher's recommendations and the standard test results. Instructional activities were concerned with cultural enrichment, reading, and other language arts. Supportive services included, food guidance counseling, dental, medical, social work and transportation.

Three teacher aides were used to grade papers and monitor students, (individually or in small groups), in the learning activities as well as reproduce tests and materials, and help with other clerical tasks.

Students were classified upon entering the program as (1) Clinical, (2) Remedial, (3) Corrective, or (4) Accelerated.

The CLINICAL group included students who were severely retarded in the area of reading to the degree that they could not function at even a minimal level. Since this group included some students who could only read at a first, second, or third grade level, an attempt was made to keep the size of these classes small in order to provide greater individual help.

The REMEDIAL student was considered to be one who was reading at the fourth, fifth, and sixth grade level. Since many of the students in this group had serious deficiencies in basic reading skills, emphasis was given to structural analysis, phonics, context clues, and vocabulary.

The CORRECTIVE groups included those students who showed no general
or limiting weakness in their reading patterns. They could be treated in a large group atmosphere. Members of the classification were disabled readers only because they were not reading as well as they could be expected to read.

The DEVELOPMENTAL classification embraced students who were generally reading at grade level and who did not display any shortcomings in reading. The objective here was to enhance and to develop the potential capabilities of the student in the area of reading.

**Evaluation Procedures**

In addition to periodic and continuous checking by the teachers on the progress of the students in the four classifications, the Iowa Silent Reading Test, Form AM, was administered to the students in September, 1968. Form CM of the test was administered in May, 1969. The scores in this report represent a total score for comprehension and speed. Three hundred and fifty-four students completed both tests.

The differences between the two scores made by each student in September and May were determined.

A test of statistical significance (Tobs) for correlated observations was used to determine significance and the 95% confidence interval was used as the criterion of the significance.

Additionally, an analysis was made of the percent of students scoring in the various quartiles (National norming group) and of the changes which occurred from September to May.

**Evaluation Data**

Table 6 shows the means, standard deviations, observed "T" and whether or not the mean gains were significant. The mean gains were statistically significant at the .05 level of confidence.
### TABLE 6

PHOENIX UNION HIGH SCHOOL  
Iowa Silent Reading Test

<table>
<thead>
<tr>
<th>TESTS</th>
<th>NO. OF STUDENTS</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
<th>T (obs.)</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre (AM) (9/68)</td>
<td>354</td>
<td>137.88</td>
<td>17.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Post (CM) (5/69)</td>
<td>354</td>
<td>147.65</td>
<td>18.4</td>
<td>12.63</td>
<td>at 1% level</td>
</tr>
</tbody>
</table>
The percent of students scoring in each quartile of the test is shown in Table 7. Seventy-six percent of Phoenix Union High School Freshman students scored in the bottom quartile on the pre-test while only 10% scored in the top two quartiles. Only 4% scored in the top quartile. Some dramatic gains were made, although nine months later, the same students had achieved reading skills far below the national norming group. On the post-test, 20% scored in the top two quartiles while 58% scored in Q-1.

**Conclusions**

1. The reading staff at Phoenix Union High School are accomplishing most of the previously stated objectives. Of particular interest is the steady reduction of dropouts. For the past three years, the percent of drops is as follows: 26.1% (1966-67); 25.4% (1967-68); and 22.8% (1968-69).

2. Objective evidence indicates that the students who enter Phoenix Union High School possess severe reading problems, almost catastrophic to success in an academic program. The reading program helps them considerably, but in one year it does not bring them up to the skills possessed by a nationally normed group.

**Implications**

1. Grouping students by their level of achievement in reading, assigning teacher aides to assist teachers, and providing smaller classes for greater individual help to students can assist substantially in improving teaching and learning conditions for disadvantaged students.

2. The reading program should be continued and perhaps expanded to give emphasis to a two or three year program for every student who has lingering reading deficiencies.
# Table 7

## Phoenix Union High School

### Iowa Silent Reading Test

Forms AM and CM

<table>
<thead>
<tr>
<th>Percentile</th>
<th>National Norms</th>
<th>Pre-Test (AM)</th>
<th>Post-Test (CM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>4%</td>
<td>9%</td>
</tr>
<tr>
<td>Quartile 4</td>
<td></td>
<td>6%</td>
<td>11%</td>
</tr>
<tr>
<td>Quartile 3</td>
<td></td>
<td>14%</td>
<td>11%</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>47%</td>
<td>22%</td>
</tr>
<tr>
<td>Quartile 2</td>
<td></td>
<td>58%</td>
<td>58%</td>
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<tr>
<td>50</td>
<td></td>
<td>76%</td>
<td></td>
</tr>
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<td>Quartile 1</td>
<td></td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>11%</td>
<td></td>
</tr>
</tbody>
</table>
Introduction

The program known as Saturation Guidance and Counseling was introduced at South Mountain High School in 1966. It is beginning its fourth year of operation September 1969.

This is a brief review of the program. It has undergone a complete, intensive examination by Dr. Lester M. Snyder of Arizona State University. Dr. Snyder was employed for a fee of $2,000 to make his evaluation.

Procedures

Using a team concept, the counselor has become the liaison for bringing together as many facets of the student as possible. Through individual and group counseling processes, information gathering, psychological and social case work evaluation, and staffings, consisting of counselor, parents, teachers, administrators, psychologist, social worker, nurse, and/or representatives of agencies other than the school, support of many kinds is provided -- educational, emotional and/or physical.

Counseling services are begun in the eighth grade. Summer school has been started through Title I. This has contributed greatly to an altered ethnic group reception. Minority groups participated in summer school to a larger degree than did the majority population.

Evaluation

It has been deemed desirable that an outside person should evaluate this program in depth. Dr. Lester M. Snyder of Arizona State University,
was selected and approved to do the evaluation. It was felt that an outsider would look at the program more objectively. The following report is a summary of Dr. Snyder's full report. His full report will be duplicated and given to the Board at a later time.
A BRIEF REVIEW
OF
SATURATION GUIDANCE AND COUNSELING EVALUATION

Submitted by: LESTER M. SNYDER, Ph.D.

Introduction

Dr. Lester M. Snyder of Arizona State University, was approved by the Board of Education to make an objective evaluation of the Saturation Guidance and Counseling Program introduced at South Mountain High School in 1966. This program has involved federal funding under Title I.

The rationale of Dr. Snyder's study is that image perceptions influence the effectiveness of any program. These image perceptions influence the dealings between school personnel and their various publics. This study examined image perceptions of the students of South Mountain High School.

Effectiveness vs. Efficiency

A committee identified two general educational needs or objectives. They were:

1. Basic skills to be achieved in the secondary school.
2. Development of a positive self-image structure.

In addition to these general objectives were a number of sub-objectives, the underlying assumption being that if these sub-objectives are attained, the general objectives will be accomplished.

Evaluation of a program's effectiveness involves the extent to which sub-objectives are realized. These sub-objectives were as follows:

a. To provide staff to make possible close, personal relationships between school personnel and each child and his parents.
b. To demonstrate to these youth that "someone does care," that the school is a friendly, helpful place.

c. To learn all that can be known about each child before he becomes a freshman at South Mountain High School.

d. To refine and improve, through constant advice and counseling, the choices of study and curriculum and to revise these decisions as often as changing conditions and attitude require.

e. To lead these youth into courses and out-of-school experiences that will be meaningful and stimulating to the pupil and his parents.

f. To broaden the vision, raise the aspirations and stimulate the determination of the pupils and parents toward successful growth educationally.

g. To raise cultural standards and enjoyment through direct and vicarious experience with culture and knowledge.

h. To improve attendance, raise levels of achievement, and increase educational persistence among these youth.

i. To involve, stimulate, inspire, and educate the parents to the end that they will take a constructive part in this uplift program for their children.

j. To provide, or direct to sources of, elementary psychological and medical attention and assistance to meet the problem of mental and personal ill-health among the poor of such an area as this.

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This study provides only a description of the current state of affairs, since no data was collected at the beginning of the project.

Program Evaluation

This report concentrates upon image perceptions which are assumed to reflect the effectiveness of the Saturation Guidance Program. These image perceptions must be ascertained from the viewpoint of the perceivers, primarily the students.

Research Design

The basic design of this study is a case study of all the South Mountain High School Students who were enrolled in an English course on May 22, 1969.

A student questionnaire was used to collect information from the students. Absentees were not included. Drop-outs and their parents were sampled in order to collect parallel data to the student questionnaire.

Personal interviews were held by the principal investigator with counselors, teachers and administrators.

Analysis Strategy

Response distributions represent the core of the analysis. Item intercorrelation provide information regarding the extent of relationship between the variables. Data collected in this study can be subjected to a statistical research design to discover new hypotheses for future studies in the District.
The Results

2,011 questionnaires were completed and returned, representing 84% of the student body.

Results of this section are reported under five major headings: (1) You (the South Mountain student), (2) Adults, (3) The Future, (4) The School, and (5) The Counselor.

You

Perception of one's self or one's attitude toward himself is considered by many authorities to be a central determinant of behavior.

Some interesting items of information revealed by the questionnaire were:

- 51% of the students rated themselves as average while 37% rated themselves above average.
- 12% rated themselves below average.
- 32% felt they came close to doing the best work they were capable of doing in school.
- 29% felt they did not come very close to their best.
- 22% felt they worked harder than other students in their class.
- 23% felt they were not working as hard as other students.
- 54% saw no difference between their efforts and those of other South Mountain High School students.
- 47% reported that they were quite happy or very happy.
- 15% reported they were fairly unhappy.
- 20% indicated unrest in indicating their wish to be out of school.
- 63% preferred school to working.

-30-
- 85% saw their school as a real opportunity.
- 61% felt their education through the schools would help them to be mature adults.
- 6% felt their school experience to be of little difference in their lives.
- 7% felt these experiences would be of little or no value in helping them to be mature adults.

There is evidence that there is a group of "unrewarded" students, consisting of between 12% and 19% of the South Mountain High School students.

Adults

The major focus of this section was upon the communication between parents and teens.
- 52% of the students reported they seldom talk with their parents about school work.
- 34% reported that they seldom talk to their parents about anything but school work.
- 28% of the students reported that their parents helped in the selection of the courses they are taking.
- 90% of the students perceived that their parents believed that an education helps one to become a mature adult.
- 81% of the students had the same feelings.

The Future

- 97% of the students reported they planned to finish high school.
- 73% reported they had discussed their after high school plans with their parents.
- 50% had talked these plans over with their counselor.
- 66% saw their life as happier ten years from now.

The School

One of the important aspects of the teen years is the struggle for psychological independence. Two questions may be asked:

(1) Does the school give you an opportunity to be independent?
(2) How does the amount of independence compare with what you want?

- 25% of the students felt there was little opportunity to be independent.
- 41% felt there was quite a bit of opportunity.
- 48% indicated that the amount of independence they had was just about right.
- 40% indicated that what they had was not enough in comparison with what they wanted.
- It would seem that the school as a social system needs to respond to this group.
- About half of the students perceived the school as a reward for them.
- About one-fourth of the students consistently reflect doubt about the possibilities of a reward being open to them.
- About one-fourth of the students did not appear to view the school as being a helpful place for them.
- In the perceptions of students no one group has a monopoly on how the school is run.
- Principals, students, and counselors appeared to have little influence upon the operation of the school.
- Parents of students and the individual student appear to have even less influence on its operation.
- 52% of the students perceived the counselors as having considerable influence over what courses they may register for.
- 62% saw themselves (the individual student) as having considerable influence.

The Counselors

In the initial plans the counselors were provided an opportunity to visit homes, to identify special needs and to initiate contacts with various community agencies. Given this emphasis the counselors assumed a central role in broadening the educational horizons and raising the level of aspirations.
- 46% of the South Mountain High School students felt their counselors took a personal interest in them.
- 29% perceived that the counselor took little or no personal interest in him.
- 23% reported they talked privately with their counselors about school work quite often.
- 16% reported they quite often talked privately with their counselors about other than school work.
- 40% reported they seldom talked privately to the counselor.
- 62% reported they seldom or never talked with the counselors about things other than school work.
- At South Mountain High School the counselors seem to initiate a
sizeable proportion of the contacts with students.
- - 42% felt their counselor gave them positive suggestions about school work.
- - 17% felt their counselor gave them negative suggestions about school work.
- - 40% felt their counselor sometimes gave positive suggestions and sometimes negative criticism.
- - 72% reported the counselors were friendly and easy to approach, 8% no.

**Parent Questionnaire**

The Parent Questionnaire was distributed to the sixth period English classes. Students were instructed to take them home and to return the completed forms next day. Only 40 of a selected group of 250 returned the questionnaires, permitting only limited generalizations about the findings.

- - 95% of parents felt school was a real chance, 87% believing that education will help a person to become a mature adult.
- - Parents at South Mountain High School are apparently not an important figure in the selection of courses of study.
- - Parents appeared to view the school positively.
- - 67% believed, contrary to the students, that the principal had considerable influence in the operation of the school.
- - 58% of the parents saw themselves as having little influence in the way the school is run.
- 54% of the parents reported students have very little influence in the way the school is run.
- There appears to be a need for planned opportunities for involvement of school personnel and parents.

Drop-Outs

The questionnaire used for drop-outs was a revised version of the one used for the students. A limited return from the drop-outs made a comparative study among the various courses of data not feasible. There were 450 drop-outs identified, 211 were contacted, and returns received from 72 of them.

- Over half of the drop-outs rated themselves as average in school ability.
- 63% felt the school was a real chance.
- 50% felt the school helps one to mature.
- Drop-outs did not feel they interacted with their parents very often.
- Drop-outs were not satisfied with their decision to leave school.
- 50% indicated they did not discuss what they were going to do upon quitting school.
- 83% indicated they did not discuss with their counselors what they were going to do after leaving high school.
- About half of the drop-outs would like to return to school.
- 63% reported they wanted more independence.
- 58% reported the school gave them little or no opportunity to achieve success.
- - Drop-outs perceived the principal as the primary holder of influence in the school.
- - Counselors had considerable influence over the courses they took.

Findings

The effectiveness of the Saturation Guidance Project can probably best be assessed by examining the objective of the Project:

1. **To provide staff to make possible close, personal relationships between school personnel and each child and his parents.**
   - - Satisfactory at the beginning; inadequate in subsequent years.

2. **To demonstrate to these youth that "someone does care," that the school is a friendly, helpful place.**
   - - Data supports the inference that the school is a friendly place.

3. **To learn all that can be known about each child before he becomes a freshman at South Mountain High School.**
   - - The question persists: Is the information being utilized and does the effort expended warrant the collection?

4. **To refine and improve, through advice and counseling, the choices of study and curriculum and to revise these decisions as often as changing conditions and attitude require.**
   - - Various data sources suggest the school is not being as responsive to the needs of its clientele as it might be; it appears more contact between the school and the parents and students is necessary.

5. **To lead these youth into courses and out-of-school experiences**
that will be meaningful and stimulating to the pupil and his parents.

- Students feel they have considerable influence here; the parents do not; parents should become more involved by sharing in this decision-point.

6. To broaden the vision, raise the aspirations and stimulate the determination of the pupils and parents toward successful growth educationally.

- There seems to be a tacit agreement among educators that as a person gets more formal schooling, he is raising his aspiration; if this is the premise, then this project was overwhelmingly successful.

7. To improve attendance, raise levels of achievement, and increase educational persistence among these youth.

- The data does not lend support to the inference that fewer students are dropping out of school than was true at South Mountain High School in 1966.

8. To involve, stimulate, inspire, and educate the parents to the end that they will take a constructive part in this uplift program for their children.

- Only partially being met.

Recommendations

1. Attention should be given to obtaining greater involvement by the parents in the selection of courses.

2. Counselors need to develop methods for getting into contact with
the students so that issues regarding the school and things other than school can be discussed.

3. An extensive study of drop-outs should be initiated.
WIN (Work Incentive) PROGRAM

Introduction

The Phoenix Union System portion of Project WIN (Work Incentive Program) is aimed at adult welfare recipients from disadvantaged backgrounds in the Phoenix area. The project is financed by the Employment Security Commission and is the result of cooperative efforts of participating educational institutions and governmental agencies.

Some 57 students were initially involved in the project. More students were added throughout the term of the project making a total involvement of over 100 participants since March 31, 1969. The WIN enrollment from October 1968 through July, 1969 is shown in Table 8.

A committee composed of representation from the PUHS central administration, the sponsoring agency and the Adult Basic Education division were responsible for developing the program guidelines. The Adult Basic Education director and project staff guided, taught and directed individual participants.

Since there was great diversity in individual participant needs, interests, and abilities programs necessarily varied from person to person. The emphasis was directed toward individually improved communication and computational skill achievement. Other desired benefits included increased aspiration levels, enhanced self concept, increased counseling assistance and the development of a new appreciation for educational experiences.

Project WIN attempted to demonstrate that:

Meeting the educational needs of "limited experience"
### TABLE 8

**WIN PROJECT**

**WIN Enrollment - Adult Learning Center**

<table>
<thead>
<tr>
<th>Month</th>
<th>Monthly Enrollment</th>
<th>Accumulative Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct.</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Nov.</td>
<td>28</td>
<td>47</td>
</tr>
<tr>
<td>Dec.</td>
<td>0</td>
<td>47</td>
</tr>
<tr>
<td>Jan.</td>
<td>1</td>
<td>48</td>
</tr>
<tr>
<td>Feb.</td>
<td>0</td>
<td>48</td>
</tr>
<tr>
<td>March</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>April</td>
<td>29</td>
<td>101</td>
</tr>
<tr>
<td>May</td>
<td>27</td>
<td>128</td>
</tr>
<tr>
<td>June</td>
<td>2</td>
<td>130</td>
</tr>
<tr>
<td>July</td>
<td>4</td>
<td>134</td>
</tr>
</tbody>
</table>

-40-
adults will result in raised aspiration levels, motivational increases, greater academic achievement, and an improved attitude toward education.

Identification of needs and utilization of appropriate educational practices will help participants realize improved employment opportunities.

Program Objectives

This project was founded on three basic assumptions:

Intensified identification of individual potential and the provision for guidance services is necessary in working with persons having limited social and economic experience backgrounds.

Encouragement to pursue and complete an academic program will contribute to success in employment situations as well as advance individual communication and computation skills.

The assurances of continued educational opportunity will increase motivational level and generally improve socio-economic opportunity.

The Phoenix Union High School WIN program utilized the following objectives:

1. Through an individualized reading program the participant will demonstrate improved reading skills as measured by the SRA Reading Index and the Wide Range Achievement Tests.
2. Through an individualized mathematics program the participants will demonstrate improved computational skills as measured by the SRA Math Index and the Wide Range Achievement Test.

3. Participants in the WIN project will develop more positive attitudes toward "school", school related activities and self as measured by responses on a pre/post opinionnaire inventory.

4. Project participants who complete the program will develop more individual initiative and responsibility as determined by teacher responses on the WIN Staff Questionnaire.

5. WIN participants will exhibit a decrease in their apprehension or threat connected with recitation, tests, success and failure in school as indicated by responses on the WIN Staff Questionnaire.

6. Teachers and students will promote changes in instruction, classroom procedures and program structure for "limited experience" type students as determined by responses to the WIN participant questionnaire.

The preceding objectives were developed in order to specify the instructional intent thus permitting more vigorous assessment of program adequacy and to objectively test the efficacy of teaching strategies.

Evaluative Design

The evaluation was structured around two basic criteria of success and four instruments, one of which was expressly designed for
the Phoenix Union High School WIN project. Dr. Danny L. employed to help in the evaluation of the WIN project.

The two major criteria used in this investigation were reading and math achievement and attitude toward school related endeavors.

The assessment design utilized in the evaluation was a one-group pretest-posttest pre-experimental design. Other data collection employed a posttest only technique. The design mentioned in this report may best be described symbolically by the following referents:

\[
\begin{align*}
o & \quad x \quad o \\
o & \quad o \quad o \\
& = \text{observation or measurement} \\
& = \text{exposure to instruction}
\end{align*}
\]

**Instruments**

The instruments employed for the Phoenix Union High School WIN project included:

1. SRA Reading Index
2. SRA Math Index
3. Wide Range Achievement Test
4. WIN Opinionnaire

**Analysis and Interpretation**

Interpretations were drawn from the primary analysis which utilized a difference between variances for dependent means technique. The approach determined significant differences in variability between pre and post performance for the "accessible" sample. Secondary analysis employed subjective techniques for findings regarding participant attitudes program adequacy.

Findings

The results of the statistical analysis of the pre and posttest performance revealed highly significant or greater than chance differences in academic achievement in reading at the .001 level of confidence. Achievement in Math was also found to be significant at the .001 and .1 level. The significant gains in achievement were substantiated by both the Wide Range Ability Test and the SRA Reading and Math Index which are presented in Table 9.

It should be noted in Table 10 which presents grade equivalency patterns, that while average improvement was approximately 1.2 to 1.9 increase, there were individuals who gained more than five grade level equivalencies during the WIN program.

The duration of participation does not appear to correlate with achievement but there were observed differences in punctuality, regular attendance, personal responsibility and inter-personal relations development for those individuals in attendance for longer periods of time. Table 11 depicts total net academic achievement gains and length of training period.

A synthesis of opinionaire reactions, where participants were asked to respond concerning "school," the WIN program, and future opportunities were highly positive. One frequent response was that "I think I have a better chance to succeed by going back to school." There was overwhelming response in favor of gaining enjoyment from reading and development of a like for mathematics and spelling. It was implied by many that going to school helps in understanding others and it was unanimous
### TABLE 9

WIN "t" Tests For Differences Between Academic Achievement on Pre and Post Tests

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<tr>
<th>Test</th>
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<th>Mean Post</th>
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<td>4.9</td>
<td>6.1</td>
<td>14.9*</td>
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<td>41.0</td>
<td>2.5**</td>
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<td>5.0*</td>
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* Significant at .001 level
** Significant at .1 level

### TABLE 10

WIN Average Grade Equivalency And Extreme Equivalency Ratings On The Wide Range Achievement Test

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<th>Academic Area</th>
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<td>WRAT Math</td>
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TABLE 11

WIN Achievement Gain and Time Relationship

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that "I think I can get a better job after going to school."

A cursory review of Adult Basic Education records indicates that large numbers of "limited experience" students "graduating" from the program will succeed because they are now able to enter training for occupations such as L.P.N., secretary, cashier, sewing machine operator, nurses aide, computer programming, beautician, cook, teacher's aide, telephone operator, key punch operator and a myriad of other opportunities that could only be dreamed of in their prior situation.

One could infer from this data that the Phoenix Union High School System WIN educational experience strongly affected achievement in reading, mathematics and spelling. The instruments employed, even though limited in measuring the wide range of program benefits, were apparently sensitive enough to detect changes that occurred.

Conclusions

The results of the study demonstrate that "limited experience" participants in the WIN program did attain significant academic achievement gains. The study should provide potentially valuable baseline data for future special project development and firmly points toward confirmation of the notion that individualized, specialized, and intensified educational programs offering a wide range of alternatives are of significant benefit to learners, especially those from disadvantaged backgrounds.
Objectives and Description of Program

Star reach was a program at Phoenix Union High School funded by a Title I supplementary grant in the Spring of 1969. Students with high ability, but low achievement and economic status, were identified by counselors and teachers as the primary target group. To raise the sights of these youngsters, to reduce dropout rates, and to increase academic success were the primary objectives.

The program provided supplementary cultural and academic experiences for 40 Junior students. Many trips were taken to museums, zoo, canyons, etc. Seven teachers, one counselor, and one director provided the service, making a teacher/pupil ratio of 1 to 5. All staff members accompanied the students on all the trips. Some funds were spent for medical services for the youngsters and for food.

Evaluation Procedures

The GPA for the forty students for the first semester was compared with the GPA during the second semester. Likewise, the attendance pattern was compared for the two semesters. Also, the dropout rates were recorded for the 40 students. Statistical tests were applied to determine significant changes.

Evaluation Data

Nine of the 40 dropped from the Star reach Program prior to its completion (23%). They gave reasons of conflicts with band, pom pon, work, and baby-sitting. Two students did not return because they refused to go back to the dentist.
Seventeen students had better GPA's the second semester than they achieved the first, while four students lost ground. (3 of the 40 students dropped first semester and 7 made no gains or losses in GPA). When applying a statistical test which only takes into account direction of change, and not magnitude, (Friedman two-way analysis of variance by ranks), there is a significant difference.

However, when the magnitude of change is considered as well as direction (most of the 17 who made gains in GPA went up only slightly, while the 4 whose GPA declined did so spectacularly - e.g. from 2.7 to 4.0), there is no significant difference. One underlying assumption must be used if this interpretation is valid, i.e., the Star reach Program influenced the sizable drop for four students as well as the slight gains for 17 others. The Wilcoxon matched pairs-signed ranks test as well as a "T" Test for determining the difference of means for correlated observations were used. The results of both tests indicate no statistically significant differences occurred in the GPA of the students collectively.

Several statistical tests were applied to determine significant differences in the number of days absent for the 40 students from the first semester to the second. (Friedman two-way analysis of variance by ranks, Wilcoxon matched pairs-signed ranks, and the "T" test for correlated observations to determine differences in means). All results indicate that there was no significant difference.

Conclusions

1. Most of the objectives have either (a) not been achieved, or (b) the program's influence has not been fully felt at this time.
2. There were no significant changes in either grades, drops, or attendance during the semester when the program was operative.

3. Other objectives, such as raising the educational and occupational aspirations of these youngsters, may have been attained; however, it is too soon to objectively judge that effect.

Implications

1. Students who are served by programs like Star reach may view the program as something quite apart from their regular school program. At least, their regular school attendance and achievement is not much affected by such programs.

2. Since Star reach was a supplementary grant, the program is not continuous, but if future funds become available, it seems desirable to spend them in support of the regular program or programs more closely related to the on-going program of the school. In other words, it might make more sense to employ reading teachers than supervisors for trips to the zoo.
S. P. A. C. L.

A Title III, ESEA Project of Phoenix Union High School
July 1966 - July 31, 1969

In July 1966, Mrs. Ann S. Banes, was approved by the Phoenix Union High School Board of Education as Director of SPACE, a Title III P. L. 89-10 Project.

The goals for SPACE, South Phoenix Area Cultural Enrichment, were as follows:

1. To instruct youth and adults in academic subjects and demonstration classes which are not presently offered in the target area. These subject areas will be offered in the schools, churches and the SPACE office.

2. To phase SPACE activities into the community concept.

3. To bring cultural events to South Phoenix which will be presented to school assemblies, as well as to the general public.

4. To provide youth and adults the opportunity to attend cultural events throughout the valley.

5. To provide a summer school program at South Mountain High School and the community schools. This program will supplement the Phoenix Union High School System, the Roosevelt Elementary School District, and the Phoenix Parks and Recreation Department programs.
Courses Offered

The attached table lists the different courses offered from 1966 through 1969 and the class enrollments. Some thirty-eight different courses were taken by 4461 persons during the three-year period.

Comments by the Project Coordinator

Mrs. Ann S. Banes started out as Director for SPACE. She was assisted by Mr. John Murphy at first. Then Dr. Paul Plath became Project Director and Mrs. Banes became Project Coordinator.

On June 6, 1969 in a report to Dr. Plath, Mrs. Banes made the following comments about what she thought about SPACE:

"SPACE brought education and culture to thousands of people in South Phoenix who would be unable to learn in any other way."

"My biggest concern and that of the staff, is what will happen now?"

"The elementary school district and the high school district will not have funds in their budgets to hold any of the classes for adults, not be able to expose youngsters and adults to the many excellent plays, musicals, athletic events, museums, etc. that SPACE had been doing."

A Title III P.L. 89-10 Project, is funded by the government for only three years. The program was ended on July 31, 1969.
Dr. Thomas Mayhew of the Southwest Regional Center for Community Development and a group of graduate students at Arizona State University have made an evaluation of the SPACE Project. Board members may refer to that report, dated May 5, 1969.
TABLE 12

SPACE COURSES AND ENROLLMENTS

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