A study was conducted to determine if handicapped students who received federal vocational rehabilitation assistance from the Department of Rehabilitation in the forms of money and/or equipment were benefitting from such aid, and to determine if one sex was benefitting more than the other. Study subjects were a sample of 60 handicapped students registered through the Disabled Students Center at Santa Ana College (California), who were carrying nine or more units. All were first semester students initially registered in the spring or fall of 1974 and 1975. Subjects were assigned to one of four groups (fifteen per group) according to sex and whether or not vocational rehabilitation assistance was received. A comparative analysis of the academic achievement of the four groups was then made. Although no significant differences were found, there were limitations in this study which warrant further investigation, such as type of disability, degree of disability, and dropout rate. Overall, the study findings indicated that the vocational rehabilitation services at the college were adequate, at least in terms of academic achievement. (JDS)
A COMPARISON OF ACADEMIC ACHIEVEMENT OF HANDICAPPED STUDENTS
IN RELATION TO VOCATIONAL REHABILITATION ASSISTANCE

by
Cheryl Dunn, M. S.
Santa Ana College

A PRACTICUM PRESENTED TO NOVA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF EDUCATION

NOVA UNIVERSITY

July 3, 1976
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>iii</td>
</tr>
<tr>
<td>I. TITLE</td>
<td>1</td>
</tr>
<tr>
<td>II. STATEMENT OF THE PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>III. HYPOTHESES</td>
<td>2</td>
</tr>
<tr>
<td>IV. BACKGROUND AND SIGNIFICANCE OF THE STUDY</td>
<td>2</td>
</tr>
<tr>
<td>V. DEFINITION OF TERMS</td>
<td>7</td>
</tr>
<tr>
<td>VI. LIMITATIONS OF THE STUDY</td>
<td>9</td>
</tr>
<tr>
<td>VII. BASIC ASSUMPTIONS</td>
<td>10</td>
</tr>
<tr>
<td>VIII PROCEDURES FOR COLLECTING THE DATA</td>
<td>12</td>
</tr>
<tr>
<td>IX. PROCEDURES FOR TREATING THE DATA</td>
<td>13</td>
</tr>
<tr>
<td>X. PRESENTATION OF THE FINDINGS</td>
<td>15</td>
</tr>
<tr>
<td>XI. CONCLUSIONS</td>
<td>18</td>
</tr>
<tr>
<td>XII. RECOMMENDATIONS</td>
<td>19</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>21</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td></td>
</tr>
<tr>
<td>A. SANTA ANA COLLEGE</td>
<td>23</td>
</tr>
<tr>
<td>B. VOCATIONAL REHABILITATION SERVICES</td>
<td>25</td>
</tr>
<tr>
<td>C. DISABLED STUDENTS' CENTER</td>
<td>26</td>
</tr>
</tbody>
</table>
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unit Regression for Handicapped Students Who Received Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation</td>
<td>15</td>
</tr>
<tr>
<td>2.</td>
<td>Grade Point Average Regression and Means of Handicapped Students Who Received Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation</td>
<td>16</td>
</tr>
<tr>
<td>3.</td>
<td>Analysis of Variance for Handicapped Students Who Received Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation</td>
<td>17</td>
</tr>
</tbody>
</table>
I. TITLE

A Comparison of Academic Achievement of Handicapped Students in Relation to Vocational Rehabilitation Assistance.

II. STATEMENT OF THE PROBLEM

The major problem was to determine if the students at Santa Ana College who received vocational rehabilitation assistance in the forms of money and/or equipment, were in actuality benefiting from this aid. More specifically, this study was concerned with the question: What impact does vocational rehabilitation assistance have on the scholastic achievement of students at Santa Ana College?

The objectives of the study were to compare the grade point averages of handicapped students who received vocational rehabilitation assistance with handicapped students who did not receive this assistance. Secondly, this study compared the grade point averages of men on vocational rehabilitation with women on vocational rehabilitation to determine if, in fact, one sex is benefiting significantly more than the other.

The nature of the problem that was examined in this study was experimental in design. Therefore, an alternative format for this practicum, suggested in the study guide for the Applied Educational Research and Evaluation Module, pages 73 to 77, was chosen since it was more appropriate for the systematic investigation of a problem.
III. HYPOTHESES

The following hypotheses were tested in this study.

1. There will be no significant difference in the grade point averages of handicapped students receiving vocational rehabilitation assistance and the handicapped students who do not receive this assistance.

2. There will be no significant difference between grade point averages of male and female handicapped students receiving vocational rehabilitation.

IV. BACKGROUND AND SIGNIFICANCE OF THE STUDY

Santa Ana Community College serves the people in the Rancho Santiago Community College District in California. Part of this service comes under the heading of Student Support Services. In turn, one facet of the Student Support Services is the Disabled Students' Center which provides aids to the handicapped such as early registration, counseling, issuance of elevator passes, transportation, mobility assistance, readers for the blind, large print books for the partially sighted and tutoring. About 450 men and women have registered through this facility since the Disabled Students' Center was established in the fall of 1973. About one third of them received vocational rehabilitation assistance.

Over the three years the Disabled Students' Center has been in existence, a working relationship has developed between the Center and the local office of the Department of Rehabilitation. What began as a simple referencing procedure (Department of Rehabilitation referencing of a few students to Santa Ana College for course work) has now developed into a continual communication between the two agencies in an attempt to provide...
the best possible services for their common students.

The Rehabilitation Services Administration is the principal agency within the Department of Health, Education, and Welfare for carrying out the program authorized under Titles I, II, and III of the Rehabilitation Act of 1973. The newly authorized statutory provisions of the Rehabilitation Act Amendments of 1974 relate to both the state vocational rehabilitation agency service programs and Federal programs, (Federal Register, 1975). There are over 100 field offices of the Department of Rehabilitation located throughout the state of California. Clients for the Department of Rehabilitation are screened against three criteria:

a. They have a medically diagnosable disability.

b. Which is a substantial vocational handicap.

c. There is a potential for employment upon completing a rehabilitation program. (Directory for the handicapped, 1974)

The Department of Rehabilitation is mainly concerned with training or retraining handicapped people into fields where they will eventually become productive citizens. Vocational rehabilitation pays for these students to start or return to college.

Santa Ana College is an institution which has been a part of rehabilitation programs, either through vocational training or the attainment of an Associate in Arts Degree. The Disabled Students' Center exists to make their college stay as profitable as possible by specializing in the basic needs of the handicapped in order to mainstream them into college life as
quickly and easily as possible.

A considerable amount of time, effort, and money is spent in reference procedures, counseling, and bookkeeping on the part of the local rehabilitation office and Santa Ana College in order to expedite the funds to qualified individuals. The college bookstore, business office, admissions office and Disabled Students' Center are actively involved. A program of this scope needs documented justification. At present, we do not have data available that would substantiate continuing or expanding the program.

Mary Majors, the Coordinator of the Disabled Students' Center at Santa Ana College, has expressed a need for this type of information. Since the bookkeeping in this type of program is quite extensive, the Director of Auxiliary Services expects justification for the efforts his office must exert in order to make processing as expedient as possible.

According to the United States Department of Health, Education, and Welfare (1971), since 1920, when Congress authorized State - Federal programs of vocational rehabilitation, more than 2,500,500 handicapped Americans have been restored to productive lives, more than paying the cost of rehabilitation. This figure sounds impressive until it is realized that fewer than five percent of the handicapped, compared to nine percent of the total population complete four or more years of college (McBee and Cox, 1974).

The Career Education Resource Notebook (1974), indicates that by the end of 1977, the following percentages will exist:
HANDICAPPED POPULATION

21% - fully employed or enrolled in college
40% - underemployed and at poverty level
8% - home bound or idle
26% - unemployed on welfare
3% - totally dependent and institutionalized

The two largest numbers in the above statistics (26% and 40%) are indicative of taxpayers' dollars being used to support handicapped individuals through welfare (26%) and possibly other agencies sighted for assistance to those who are at poverty level.

Since vocational rehabilitation is basically a financial service that uses taxpayers' dollars, it warrents research and evaluation. The Rehabilitation Services Administration (1971) states that costs rose from $554 to $742 per person (average) from 1967 to 1971 with the most expensive services given to the blind and orthopedically impaired. A study by Graham (1974) was concerned with identifying the specific needs of the handicapped students compared with the needs of general students. Results showed that the handicapped had significantly greater information needs in areas of aptitude testing, scholarships jobs, course prerequisites, work experience, elective courses, welfare benefits, taking tests, reading skills, study skills, economic resources, writing skills, low grades, personal and sexual adjustment. The Rehabilitation Services Administration further states that nationwide, about 40% of the handicapped population receiving vocational rehabilitation consisted of women. The greatest age group of men and women served was under twenty with the twenty four to thirty four year age group second.
The previously mentioned literature would verify that the cost of rehabilitation is impressive, but justified on a needs basis. What appears to be lacking is proof that this aid helps as far as academic achievement is concerned.

In 1974, a report was presented by the Comptroller General of the United States to the Congress on Federal programs for the handicapped in the areas of Special Education, Vocational Education and Vocational Rehabilitation. The report stated that only about 40% of an estimated seven million children will receive the education they need. The Comptroller recommended a need for a systematic collection of data about the handicapped and a need for Congress to eliminate inequalities in fund allocations. Part of the internal struggle taking place presently in the Department of Rehabilitation is due to the pressing need to justify money spent on rehabilitation. In some instances, programs for the disadvantaged have been implemented without assurance that they would work and without proper research designs (Wall, 1973).

New Federal legislation for vocational rehabilitation has created changes affecting future programs. There is need to evaluate the impact of vocational rehabilitation programs in client terms. Accountability requires the Department of Rehabilitation to develop its own model including applicant evaluation, client status, objectives, program evaluation and employment status (Cooper and Parker, 1975).

Generally, the review of the literature failed to reveal any study similar to this one. One study (Hoyt, 1965) compared educational and vocational experiences of vocational rehabili-
tation students and non-vocational rehabilitation students in selected training areas. The study identified characteristics of the two groups and found no significant differences. The findings implied that given appropriate training, physically disabled persons are not handicapped in securing employment or in progressing on the job.

The fact that, in general, females are more predictable than males in academic settings, has been shown in earlier studies. The findings from a study by Gross, Faggan, and McCarthy (1974) reinforce this fact. This study was unique because of the large sample (17,745 subjects). Results showed that predictor mean scores and standard deviations were basically the same and that females, on the average, consistently showed higher grade point averages.

Through correspondence with the Research Utilization Consultant from the California State Department of Rehabilitation, it was ascertained that most of the available literature does not speak directly to the problem. He further stated that "the absence of such studies marks a definite need for knowledge."

V. DEFINITION OF TERMS

Specific meanings for terms unique to this study were as follows:

1. Santa Ana College. A two year community college, the only community college in the Rancho Santiago Community College District, located in Santa Ana, California. (Appendix A)

2. Vocational Rehabilitation Services or Assistance. According to the Department of Health, Education, and Welfare, Office of Human Development and Social and Rehabilitation Service (1975), rehabilitation...
services and assistance when provided to an individual, means: "evaluation of rehabilitation potential, including diagnostic and related services incidental to the determination of eligibility for, and the nature and scope of, services to be provided". (Appendix B.)

3. **Disabled Students' Center.** A function of Student Support Services at Santa Ana College, located in Russell Hall R101, to provide handicapped students a center in which they can receive special counseling, use adaptive equipment, socialize, study, and find available help for tutoring in needed areas. (Appendix C.)

4. **Handicapped Individual.** For purposes of this study, anyone referred to as handicapped will be defined as one who has a physical or mental disability which for such individual constitutes or results in a substantial handicap to employment and who can reasonably be expected to benefit in terms of employability from the provision of vocational rehabilitation services.

5. **Disadvantaged.** Used interchangeably with handicapped and disabled.

6. **Disabled Individual.** Used interchangeably with handicapped and disadvantaged.

7. **Rehabilitation.** For purposes of this study, rehabilitation refers to training or retraining of handicapped individuals for new employment.

8. **Grade Point Average.** The average of all courses completed by a student during the student's first semester at Santa Ana College, where the student has carried nine units or more. Grade point averages are determined by dividing a student's earned points (where an A = 4 points, B = 3 points, C = 2 points, and a D = 1 point) by the number of course units he has taken.

9. **Academic Achievement.** The average standard of achievement in a student's college courses as determined by his grade point average irrespective of social or extracurricular accomplishments.

10. **Permanent Number.** A six digit figure assigned to each person who registers at Santa Ana College for the first time. These numbers are used for college identification only.
11. **Orthopedically Impaired.** A handicapped individual characterized by deformities or diseases of the spine, bones, joints, muscles, or other parts of the skeletal system.

12. **Open Campus.** Santa Ana College is open to any high school graduate or adult eighteen years of age or older. Students entering any of the community colleges of California are subject to the residence requirements by the State of California.

VI. LIMITATIONS OF THE STUDY

Limitations of the study were as follows:

1. Since Santa Ana College is an "open campus" anyone who is eighteen years of age or older and meets California Community College residence requirements may attend the institution, even if the person has not completed high school. However, to graduate with an Associate of Arts Degree or Vocational Training Certificate, students should have a high school degree or pass an approved high school equivalency test. Students do not have to achieve this requirement before they enter college and it is not mandatory for graduation. There was no way to actually control for academic potential other than to screen students and accept only those for the study who had graduated from high school or had taken and passed a high school equivalency test. This would have made the sample too small to be practical. Therefore, subjects were limited to students who registered through the Disabled Students' Center at Santa Ana College for their first semester either in the spring of 1974, fall of 1974, spring of 1975 or fall of 1975. The actual date of the semester the student attended was not taken into consideration. The fact that the semester in question was the student's first, was significant.
2. Vocational rehabilitation assistance is usually granted to students who will carry nine units or more. Therefore, subjects in this study had completed at least nine units.

3. This study considered only academic achievement as determined by grade point averages of courses completed. No attempt was made to distinguish between subject matter or major or minor fields of interest.

4. Students receiving other forms of financial assistance (scholarships, grants, etc.) were not considered.

5. Due to the small size of the sample it was not possible to match marital status, type of disability or degree of disability.

6. Students receiving vocational rehabilitation at Santa Ana College were chosen to receive this assistance for career possibilities, by their vocational rehabilitation counselors. The remainder of the handicapped population chose to be at Santa Ana College for other reasons. Although this variable was not included in the statistical design, it could become a major consideration for a future study.

VII. BASIC ASSUMPTIONS

Several conditions in this study were assumed to be true. They are as follows:

1. Decisions as to who would receive vocational rehabilitation assistance rest with the counselors who are employed by the Department of Rehabilitation. These decisions are reached after evaluation of the rehabilitation and employability potential of the candidate being considered. Therefore, it was
assumed that subjects in the study who were included in the group that received vocational rehabilitation had gone through similar evaluation and consultation procedures which included advisement as to career selection.

2. New students who registered in the Disabled Students' Center received counseling by one of two counselor/instructors employed by the center. This counseling consisted of advisement as to classes to enroll in, units to carry and services offered by the Disabled Students' Center. It was assumed that students in the study received such counseling. It was also assumed that the two counselor/instructors were relatively equal in their counseling capacities.

3. All subjects in this study had equal access to learning aids on the campus, such as tutorial services and the Learning Center. Subjects also had equal opportunities to make appointments with either or both of the counselor/instructors for academic or personal counseling.

4. It was assumed that students who did not receive vocational rehabilitation and carried nine units or more were as career minded as students who received vocational rehabilitation. It was noted by the Coordinator of the Disabled Students' Center that students who carried less than nine units usually were attending college for reasons other than careers, such as "to meet people" or "for something to do". This was evidenced by the variety of courses taken by them in the areas of arts and crafts or a single course of interest such as ceramics.
VIII. PROCEDURES FOR COLLECTING DATA

Subjects in this study were selected from the population of men and women who registered at Santa Ana College through the Disabled Students' Center, and who had completed nine or more units. Those who received vocational rehabilitation were identified by collecting the authorization forms sent to the college business office by the Department of Rehabilitation. Sample groups were limited to fifteen students in each of the four groups for a total of sixty. Thirty received vocational rehabilitation, fifteen men and fifteen women, and thirty did not receive it, fifteen men and fifteen women.

Women who received vocational rehabilitation was the most difficult group to obtain because of the small number. It was necessary to begin with the spring semester of 1974 and identify women on vocational rehabilitation. Subjects for this group were selected from that semester and from the three following semesters, fall - 1974, spring - 1975, and fall - 1975, until a total of fifteen were obtained. Since the other three groups were larger, a random sample was taken from each of the four semesters to make up matching groups of fifteen each. Three to six subjects were selected from each of the four semesters.

The Burroughs 3700 Computer at Santa Ana College provided grade point averages for all students registered through the Disabled Students' Center. Computer printouts obtained from the Computer Center were analyzed to identify those students who received vocational rehabilitation assistance by matching names and permanent numbers with authorization forms.
previously mentioned. Personal data records in the Disabled Students' Center provided information as to sex and first semester of attendance.

IX. PROCEDURE FOR TREATING THE DATA

When this study was first undertaken, it was clear that many variables could be identified such as sex, marital status, type of disability, degree of disability, attrition rate, and others. Originally, as was explained in the proposal, the only variable to be identified for purposes of this study, was whether or not the students received vocational rehabilitation. The means of the two groups would have been sufficient and a T-test would have been conducted to either accept or reject the null hypothesis (hypothesis I). Since the time of the submission of the proposal, it was decided to add one more variable, that of sex. Techniques for treating the data were changed.

This study involved two groups of students, one group of handicapped students who received vocational rehabilitation assistance and the other group of students who did not receive vocational rehabilitation. Each of these groups was divided into men and women. These variations called for a two by two factorial design. Students were assigned to one of four groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>men receiving vocational rehabilitation</td>
<td>15</td>
</tr>
<tr>
<td>II</td>
<td>women receiving vocational rehabilitation</td>
<td>15</td>
</tr>
<tr>
<td>III</td>
<td>men not receiving vocational rehabilitation</td>
<td>15</td>
</tr>
<tr>
<td>IV</td>
<td>women not receiving vocational rehabilitation</td>
<td>15</td>
</tr>
</tbody>
</table>
Visually, this design would appear as:

<table>
<thead>
<tr>
<th></th>
<th>men</th>
<th>women</th>
</tr>
</thead>
<tbody>
<tr>
<td>vocational</td>
<td>Group I</td>
<td>Group II</td>
</tr>
<tr>
<td>rehabilitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>non-vocational</td>
<td>Group III</td>
<td>Group IV</td>
</tr>
<tr>
<td>rehabilitation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This design allowed the effects of vocational rehabilitation assistance to be identified as well as the interaction effects on men and women. Grade point averages represented the academic achievement for all four groups. The means of the four groups were calculated.

An analysis of variance was used for treatment of the data. It allowed for comparisons between the four groups. Specifically, an analysis of variance allowed comparisons between those who received vocational rehabilitation and those who did not and comparisons between men and women handicapped students receiving vocational rehabilitation. The measurement level of the data is ordinal and this model is applicable.
X. PRESENTATION OF THE FINDINGS

It was stated previously, that students were selected who carried nine units or more. To control further, an attempt was made to match the groups as closely as possible in the number of units taken with 15 being the greatest and 9 the least.

Table 1

Unit Regression for Handicapped Students Who Received Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation

<table>
<thead>
<tr>
<th>Group I Vocational Rehabilitation Men</th>
<th>Group II Vocational Rehabilitation Women</th>
<th>Group III Non-Vocational Rehabilitation Men</th>
<th>Group IV Non-Vocational Rehabilitation Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>12</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
Grade point averages for the four groups ranged from a low of 1.33 to a high of 4.00.

A regression of grade point averages shows the range. Means of the four groups were calculated. From these, a grand mean was figured.

Table 2
Grade Point Average Regression and Means of Handicapped Students Who Received Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>Group IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational</td>
<td>Vocational</td>
<td>Non-Vocational</td>
<td>Non-Vocational</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>Rehabilitation</td>
<td>Rehabilitation</td>
<td>Rehabilitation</td>
</tr>
<tr>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3.53</td>
<td>3.44</td>
<td>4.00</td>
<td>3.75</td>
</tr>
<tr>
<td>3.42</td>
<td>3.30</td>
<td>3.75</td>
<td>3.72</td>
</tr>
<tr>
<td>3.40</td>
<td>3.20</td>
<td>3.66</td>
<td>3.72</td>
</tr>
<tr>
<td>3.33</td>
<td>3.14</td>
<td>3.40</td>
<td>3.66</td>
</tr>
<tr>
<td>3.10</td>
<td>3.00</td>
<td>3.33</td>
<td>3.36</td>
</tr>
<tr>
<td>3.07</td>
<td>3.00</td>
<td>3.33</td>
<td>3.36</td>
</tr>
<tr>
<td>3.07</td>
<td>2.70</td>
<td>3.00</td>
<td>3.33</td>
</tr>
<tr>
<td>2.81</td>
<td>2.66</td>
<td>2.75</td>
<td>3.07</td>
</tr>
<tr>
<td>2.75</td>
<td>2.60</td>
<td>2.50</td>
<td>3.00</td>
</tr>
<tr>
<td>2.76</td>
<td>2.58</td>
<td>2.33</td>
<td>2.66</td>
</tr>
<tr>
<td>2.66</td>
<td>2.50</td>
<td>2.30</td>
<td>2.58</td>
</tr>
<tr>
<td>2.55</td>
<td>2.40</td>
<td>2.22</td>
<td>2.50</td>
</tr>
<tr>
<td>2.30</td>
<td>2.33</td>
<td>2.00</td>
<td>2.25</td>
</tr>
<tr>
<td>2.08</td>
<td>2.20</td>
<td>1.90</td>
<td>2.00</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>1.92</td>
<td>2.20</td>
<td>1.33</td>
<td>1.60</td>
</tr>
<tr>
<td>42.75</td>
<td>41.25</td>
<td>41.80</td>
<td>44.83</td>
</tr>
<tr>
<td>2.85</td>
<td>2.75</td>
<td>2.78</td>
<td>2.99</td>
</tr>
</tbody>
</table>

Grand mean = 2.84
The problems critical to this study were to determine if there was any relationship between handicapped students who received vocational rehabilitation and handicapped students who did not receive vocational rehabilitation, and whether there was any significant difference between men and women who received this assistance in relation to academic achievement. The null hypotheses were: Hypothesis I - There will be no significant difference in the grade point averages of handicapped students receiving vocational rehabilitation assistance and students who do not receive this assistance; Hypothesis II - There will be no significant difference between grade point averages of male and female handicapped students receiving vocational rehabilitation.

An analysis of variance revealed the findings significant in terms of the critical problems isolated in this study.

Table 3
Analysis of Variance for Handicapped Students Who Receive Vocational Rehabilitation and Handicapped Students Who did not Receive Vocational Rehabilitation

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Degrees of Freedom</th>
<th>Sums of Squares</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Sets</td>
<td>3</td>
<td>.515</td>
<td>.172</td>
</tr>
<tr>
<td>Within Sets</td>
<td>56</td>
<td>19.228</td>
<td>.343</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>19.743</td>
<td></td>
</tr>
</tbody>
</table>

\[ F = .501 \]
Since the calculated value of F does not exceed the critical value of F, at the .01 or .05 level, the null hypotheses cannot be rejected. There is no significant difference between the means of the four sets. The four sets of grade point averages do not differ significantly from one another.

XI. CONCLUSIONS

The finding of no significant difference between handicapped students who received vocational rehabilitation and the handicapped students who did not, negates the necessity of further comparing men who received vocational rehabilitation with women who received it. The findings actually showed that there was no significant difference between the groups in any way.

It is concluded that the Department of Rehabilitation and the Disabled Students' Center at Santa Ana College are providing at least adequate services as far as academic achievement is concerned.

A sight comparison of the means of the four groups (2.85, 2.75, 2.78, and 2.99) indicated that the handicapped students in the study carried a "C+" average which is considered "average" for any student. The handicapped students are not failing as a group.

A comparison of grade point averages, even with the sex variable included, was not an adequate measure of the scope of
the impact of vocational rehabilitation assistance or the services of the Disabled Students' Center. However, grade point average is the determining factor of whether or not a student continues his education, according to standards set by Santa Ana College. The fact that there was no significant difference would indicate no reason for discontinuing the vocational rehabilitation program.

It is concluded that the impact of vocational rehabilitation on the academic achievement of handicapped students at Santa Ana College is not significant. However, it must be kept in mind that there is no way to assess how well these students would have done if they had not received the help.

XII. RECOMMENDATIONS

It is recommended that this study be considered a contributing factor in the total picture of providing services to the handicapped. An intensive evaluation of the handicapped program at Santa Ana College and its connections with the Department of Rehabilitation would require ascertaining the impact of variables previously mentioned, such as marital status, working students, type of disability, degree of disability, full time and part time, major fields of interest and number of males versus the number of females receiving vocational rehabilitation. In addition, the amount, the methods, and the nature of counseling could be considered.

It is recommended that the Department of Rehabilitation continue to send handicapped students to Santa Ana College for vocational training and course work required for an Associate
of Arts Degree.

Although vocational rehabilitation students do as well as, but not better than, non-vocational rehabilitation students, it is still recommended that college offices continue their services.

The Disabled Students' Center should definitely continue to work closely with Department of Rehabilitation counselors to maintain the academic standard established. It would be more profitable to increase this relationship if in any way it could raise the academic averages of the students.

The Disabled Students' Center has the option of helping to fund certain programs on the campus such as speech and physical education by purchasing materials or equipment that can be used by handicapped students. Since the students on vocational rehabilitation are doing as well as non-vocational rehabilitation students, it may be possible to obtain vocational rehabilitation assistance for programs as well as people.

Equal programming must be planned for men and women. The findings show that men and women benefit on a relatively equal basis. However, the difficulty in identifying women on vocational rehabilitation clearly suggests that more men receive assistance in Santa Ana. This factor could lead to an important investigation of why this is so.
REFERENCES


Majors, Mary. Personal Interview. Santa Ana, California, April 9, 1976.


APPENDIX A

Santa Ana College

Santa Ana College began operation as a junior college in 1915 on the Santa Ana High School Campus with 20 different class offerings, 11 faculty members and 24 freshman students.

During the 1974-1975 school year there were approximately 1,500 different class offerings, 190 full-time faculty members, 500 part-time faculty members, and 4,900 full-time students, 9,700 part-time college students, and 8,400 continuing (adult) students.

From 1915 to 1974 the college has shown a steady growth pattern, except for the World War II and Korean War years. From 25 students in 1915 the College grew to 216 students in 1925. During the twentieth anniversary year, 1935, the student population was 600. In 1964, there were 5,300 students, and today there are 22,000. There has been continuous planning and building growth since 1952, climax by an election in April, 1971, in which the citizens of Orange voted to join the newly named Rancho Santiago Community College District. By special legislation the district came into operation on July 1, 1971. The following year the continuing education division of Orange became a part of the district. All post-high school education in the Santa Ana-Orange unified school districts is now administered by the College District.

For the past 59 years, Santa Ana has been a major educational unit in California, with the continuing education division a major part of that function since 1927.
The Rancho Santiago Community College District, through Santa Ana College, proudly counts over 167,000 former students as alumni.

The College is fully accredited by the Western Association of Schools and Colleges. Santa Ana College also holds a membership in the Western Colleges association. The College offers a wide range of college transfer and two-year occupational courses.
APPENDIX B

Vocational Rehabilitation Services and Assistance

Vocational Rehabilitation Services, when provided to an individual means:

1. Evaluation of rehabilitation potential;
2. Counseling, guidance, and referral services;
3. Physical and mental restoration services;
4. Vocational and other training services, including personal and vocational adjustment, books, tools, and other materials;
5. Maintenance;
6. Transportation;
7. Services to members of a handicapped individual's family when such services are necessary to the adjustment or rehabilitation of the handicapped individual;
8. Interpreter services for the deaf;
9. Reader services, rehabilitation teaching services, and orientation and mobility services for the blind;
10. Telecommunications, sensory, and other technological aids and devices;
11. Recruitment and training services;
12. Placement in suitable employment;
13. Post-employment services necessary to assist handicapped individuals to maintain suitable employment;
14. Such other goods and services which can reasonably be expected to benefit a handicapped individual in terms of his employability.

*Federal Register, November 25, 1975.*
APPENDIX C

Disabled Students' Center

Philosophy and Purpose

Part of the philosophy of Santa Ana College is that all students should realize their greatest potential and utilize these resources to achieve a richer and more productive life. This is also true of the disabled student.

Through the use of the Disabled Student Program, the disabled persons are encouraged to continue their education and to develop a level of competency that will give them a chance to become self-sustaining contributing members of society.

The purpose of the program is to give disabled students an equal opportunity in the educational process, and to help them become an integrated and welcome part of the Student Body.

Who Qualifies

Special services are provided for students with disabilities including:

- Blind
- Partially Sighted
- Legally Blind
- Muscular Dystrophy
- Hard of Hearing
- Cerebral Palsy
- Orthopedically Handicapped
- Multiple Sclerosis
- Cardiac Disease
- Amputee
- Arthritis
- Diabetes
- Post polio
- Other Health
- Impairments and other disabilities limiting locomotion or physical function

Special Services

Special services are provided depending on the individual needs. A staff person is available full time to coordinate these services and assist disabled students in the pursuit of their education. There are also special counselors assigned to this program.

Some of the services available are:
Facilities

Architectural barriers on campus are being eliminated to provide barrier-free mobility to all students. The Disabled Students' Center is located in Russell Hall 101 to provide disabled students a Center in which they can receive special counseling, use adaptive equipment, socialize, study and find available help for tutoring in needed areas. In addition, almost all buildings on campus are equipped with elevators to provide access to classrooms on upper floors. Restrooms are being modified to accommodate wheelchairs. Special parking has been set aside for those who need close proximity to classes.

Who To Contact

It is possible to visit the Disabled Students' Center in Russell Hall 101 or call 835-3000 ext. 418. The staff is always happy to talk with anyone and answer any question.

The above information was taken from a pamphlet, published by the Santa Ana College Print Shop for distribution throughout the community.