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ABSTRACT

In April 1973, it was proposed that Napa College implement a special remedial program designed to serve the needs of soon-to-be-discharged military personnel and veterans. This study was conducted to determine the need for such a program. The overriding hypothesis was that there was no significant difference between male veterans and non-veterans during their first quarter at Napa College with regard to grade point average (GPA), attrition rate (the rate at which units were dropped during the progress of one quarter), and persistence rate (the rate at which students returned to the college for the following quarter). Random samples of 30 veterans and 30 non-veterans were drawn from the total male population of the college. Only males between the ages of 20 and 25 who had enrolled in Napa College for the first time in Fall 1972 were sampled. Graphic presentation of the data includes histograms of the Fall 1972 GPA's of the two samples, and circle graphs displaying differences in attrition and persistence rates. Results indicate that there were no significant difference between the two groups with regard to the three characteristics studied. Because Napa is a small rural community, results should be applied to veteran populations at other institutions only with great care. (Author/DC)

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AN ANALYSIS OF SELECTED CHARACTERISTICS
OF
NAPA COLLEGE VETERAN AND NON-VETERAN MALE STUDENTS

by

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A PRACTICUM REPORT PRESENTED TO NOVA UNIVERSITY
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STATEMENT OF THE PROBLEM

During the spring, 1973, Napa College was considering implementing a special assistance program for veterans. There was special concern that these students could not immediately perform at the same academic level as the rest of the college population; that they could not maintain course enrollment as well as other students; and that they could not persist in college to the same degree. It was suggested that a special remedial program would be of value to the veteran group. The purpose of this study was to determine if there was a significant difference between the two groups with regard to the selected characteristics, e.g. grade point average, attrition, persistence.

The ultimate question was, therefore, should Napa College expend its time and energy to develop or implement a program specifically designed to meet the needs of veterans and inservico military personnel?

SCOPE AND LIMITATIONS OF THE STUDY

Profiles of basic educational abilities were not available at Napa College. As a result fundamental comparisons in the basic abilities of the two groups were not feasible.

The study was limited to those students enrolled for the first time at Napa College, Fall Quarter 1972. There was no assurance that this group was representative of students entering other Fall quarters. Also, any students "persisting" at other institutions after the first quarter would not have been detected by the study.

No tests were conducted to compare motivation, family responsibilities or emotional and material support.

Further, the study did not pursue the sample beyond the enrollment period of Winter Quarter, 1973. It was recognized, however, that by continuing the study, differences might be detected later in the educational process.

The study was limited to males even though females were included in the proposed "special remedial program" which initiated the original motivation for the study. Females represented one per cent of those veteran students enrolled for the first time at Napa College, Fall Quarter, 1972. They were not included in an effort to hold constant as many variables as possible between the two populations.

The study was limited in that there was no attempt to verify the student's stated information on the Napa College application form.

Napa College may be characterized as a semi-rural community (City population: 37,000). Generalizing the results and applying them to veteran populations at other institutions should be done only with great care.

SIGNIFICANCE OF THE STUDY

Educational programs, attempting to upgrade the skills of veteran and active-duty servicemen, were made possible through Public Law 91-219, the GI Bill amendments of 1970.

From the first such program established at Staten Island Community College in 1969 these programs have enjoyed popularity at various community colleges in the United States.¹ The PREP program is "designed to help servicemen obtain a high school diploma and/or to overcome educational shortcomings which would prevent them from pursuing successfully a post-secondary educational or training program."² The S.A.E.D. program or Special Assistance for the Educational Disadvantaged "is similar to the PREP except that it applies to honorably discharged veterans."³

On April 12, 1973, a proposal was made to the Governing Board of the Napa Community College District that the college implement a special remedial program designed to serve the needs of soon-to-be discharged military personnel and veterans.

Significant points considered by the college, at the time of this report, included:

Was the appeal to the college based only on emotion--the desire at that time to "do something positive for the veteran"?

¹Dr. William M. Birenbaum and James J. Smith, Jr., College Discovery: America's First PREP Program, ERIC, 1971, p. 1.

²Veterans Administration, FACT SHEET, veterans Administration Regional Office, San Francisco, p. 1.

³Ibid.

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Was there a public relations aspect to the program? The institution might have liked to publicize its special aid to the veteran group on campus.⁴

The total financial implications for Napa College were not determined at the time of this report. There was concern that a large portion of students might enroll in the special program rather than the traditional offerings, thus reducing student enrollment. Another view was that the long range effect of the proposed program might increase the persistence of the veteran population thereby contributing to the growth of the student population of the college.

There was a possible impact on the staffing pattern at Napa College. Like many colleges, student growth had not kept pace with projected enrollments and expectations. A special program with external funding might have provided a staffing alternative for faculty members facing a reduction in their assignments. These considerations as well as others were pondered by college personnel prior to any serious feasibility concern.

While all of the above were significant factors, this study was limited to an investigation of the three qualities mentioned previously and made a comparison between the veteran and non-veteran entering Napa College. It sought to determine the need for "some special program" for veterans.

⁴Napa College Veterans Office reported an increasing number of veterans receiving educational benefits: Fall 1971- 426 veterans; Fall 1972- 468 veterans. It was estimated that less than one per cent of those receiving benefits were female.

The study did not attempt to consider the effectiveness of the proposed "special remedial program" which may or may not have proved to be of specific value to any enrolled students.

REVIEW OF RELATED LITERATURE

A survey of the published literature revealed no recent similar studies in the comparison of veteran and non-veteran students. However, extensive studies in this area did take place in the post World War II years of 1946 - 1950. Frederiksen and Schrader conducted a study of 10,000 veteran and non-veteran students in 16 American colleges.⁵ A major purpose of that study was to provide a reasonably clear answer to the question: How did veterans and non-veterans differ in respect to academic success? They concluded from the studies of freshmen students that there is a tendency for veterans to achieve higher grades in relation to ability than do non-veteran students.⁶ Frederiksen also found evidence from this study to strongly support the hypothesis at the 1% significance level "that 'interrupted' veterans do excell non-veterans of equal ability with respect to achievement in college."⁷

Recent literature regarding veterans education is concentrated in developing and administering college programs for the returning veteran. There is concern that there is a

⁵Norman Frederiksen and W.B. Schrader, A Study of 10,000 Veteran and Non-veteran Students in 16 American Colleges, ERIC, 1950.

⁶Ibid. p. 20.

⁷Ibid.



considerable decline in the general use of the GI Bill to attend college. Rosalind Loring states, "following World War II approximately 50% of its veterans took advantage of their GI Bill; more than 40% of the Korean veterans used their GI Bill for education. However, today only 23% of the Viet Nam veterans are applying for the GI Bill benefits."⁸

In a study by Berry and Vivell it was found that "following World War II and to a lesser extent the Korean Conflict, it was generally accepted that the veterans often had better than average grades, and lower drop-out and academic failure rates."⁹ They identify the factors that deter the current veteran student from attending college as: "motivational factors; lack of knowledge about education and training; adjustment factors involving personal problems; and anxiety about the school environment."¹⁰

STATEMENT OF HYPOTHESIS

The over-riding hypothesis was that there was no significant difference between the male veterans and non-veterans of the studied age during their first quarter at Napa College with regard to attrition rate, grade point average, and persistence rate.

⁸Rosalind Loring, "The Considerations in Planning and Administering a College PREP Program for Veterans" Adult Leadership, September, 1971, Volume 20, p. 100.

⁹Dr. Gordon L. Berry and Susan Vivell, A Study of Educationally Disadvantaged Veterans Enrolled in a College Preparatory Program, ERIC, 1972, p. 8.

¹⁰Ibid. p. 7.

BASIC ASSUMPTIONS

It was assumed that a random sample, size 30, from each of the two populations would be representative of the total population with regard to the characteristics being examined in the study. It was further assumed that the variances of the two populations were equal.

While the "Grade Point Average" is a common statistic, not only among educators but also their students, the "Attrition Rate" is not. The attrition rate coefficient generated for each individual was designed to measure the rate at which units were dropped during the progress of instruction. The "Persistence Rate" coefficient for an individual was designed to measure the student's return to or absence from the institution during the following quarter of instruction. A persistence rate coefficient for the group, then, measured the degree with which the group members returned for the following quarter.

DEFINITION OF TERMS

For purposes of this study, the following terms were defined:

1. Veteran - A male student who stated on his application for admission to Napa College that he was a "veteran" or was currently on "active military service."

2. Non-veterans - A male student who, on his application for admission to Napa College, stated that he was not a "veteran" nor currently on "active military status."
3. Studied Age - Twenty through twenty-five years of age. As used in this study, "studied age" indicated those persons born between January 1, 1948 and December 31, 1953, inclusive.
4. Grade Point Average - Each student's "grade point average" was computed by dividing the total units attempted into the total grade points earned. Units attempted on a CR/NC basis were not used for computing the grade point average. The grade point system employed was as follows: A - 4; B - 3; C - 2; D - 1; F - 0; CR - 0; NC - 0.
5. Attrition Rate - The coefficient assigned to each individual in the study by dividing the "units of W" by total units attempted, e.g. a coefficient of "0" indicated no course with grade of "W", coefficient of "0.5" indicated that 1/2 of attempted units were dropped.
6. Grade "W" - That grade assigned to students who remained enrolled in a class at least three weeks but not through completion.

7. Persistence Rate - The coefficient assigned to each individual in the study by designating the number "1" if the student registered for the following quarter of instruction and by assigning the number "0" if the student did not register for the following quarter of instruction.
8. First Quarter Student - A student who indicated on his application for admission to Napa College that he had not previously attended Napa College. (It was possible that the student had previous college experience elsewhere.)

PROCEDURES FOR COLLECTION AND TREATMENT OF DATA

PROCEDURES FOR COLLECTION OF DATA

1. Use was made of a previously generated computer list of all first time students at Napa College, Fall, 1972. Male students of the studied age were manually sorted from the list of 1,343 individuals. The subset collected was further partitioned into two groups for study. Group V included veterans, group N included non-veterans.
2. A random sample of size 30 was selected from group V and group N. As part of the selection method a natural number was assigned to each member of group V. With corresponding numbers on small tabs, 30 numbered tabs were randomly drawn from a container. A similar technique was used in the selection of the random sample for group N.

3. Data available in the computer printout included sex, age, courses and grades Fall Quarter, 1972. Additional and confirming information such as grade point average for Fall 1972, number of units of W grade Fall 1972, and registration status for the following quarter were available in the student's record folder. The Registrar at Napa College granted permission to search the record folders for the needed information.

4. For each student selected in the sample, three statistics were noted:

- a. Grade Point Average (g).
- b. Coefficient of attrition (a).
- c. Coefficient of persistence (p).

PROCEDURES FOR TREATMENT OF DATA

For each student included in the two samples, veterans and non-veterans, three coefficients were assigned and studied.

1. The "Grade Point Average" was recorded. For this research, the "Grade Point Average" as determined by Napa College was the grade point average earned, Fall Quarter 1972.

2. An "Attrition Coefficient" was calculated by dividing the total units of "W" grade (as assigned at the close of the Fall Quarter 1972) by total units attempted.

$$a = \frac{\text{units of W}}{\text{units attempted}}$$

3. The "Persistence Coefficient" was recorded, which was noted as "1" in the event the student registered for the following quarter (Winter 1972-73), and "0" in the event the student did not return for the Winter Quarter.

Work with these data constituted the decision making tests of the study.

GRADE POINT AVERAGE:

The following hypotheses were tested in the study:

Null Hypotheses (H_0): There is no significant difference in the mean Grade Point Averages between the two groups ($\bar{g}_v = \bar{g}_n$).

Alternative Hypothesis (H_a): The Grade Point Average of the non-veteran population is significantly higher than that of the veteran population ($\bar{g}_n > \bar{g}_v$).

- Procedure:
1. Established degrees of freedom.
 2. Computed MEANS (\bar{g}_v and \bar{g}_n) and standard deviations (s_{vg} and s_{ng}) of each sample.
 3. Calculated "t".

ATTRITION RATE:

The following hypotheses were tested in the study:

Null Hypotheses (H_0) There is no significant difference in the mean Attrition Rate between the two groups ($\bar{a}_v = \bar{a}_n$).

Alternative Hypothesis (H_a): The Attrition Rate for the veteran group is significantly higher than for the non-veteran group ($\bar{a}_v > \bar{a}_n$).

- Procedure:
1. Established degrees of freedom.
 2. Computed MEANS (\bar{a}_v and \bar{a}_n) and standard deviations (s_{va} and s_{na}) of each sample.
 3. Calculated "t".

PERSISTENCE RATE:

The following hypotheses were tested in the study:

Null Hypothesis (H_0): Veterans persist at Napa College at the same rate as non-veterans ($\bar{p}_v = \bar{p}_n$).

Alternative Hypothesis (H_a): Veterans and non-veterans do not persist at the same rate ($\bar{p}_v \neq \bar{p}_n$).

Procedure: 1. Established degrees of freedom.

2. Established a 2 by 2 contingency table.

Tested the independence of the two criteria:

Veteran/Non-veteran and

Persistence/Non-persistence.

3. Calculated " χ^2 ".

PRESENTATION OF DATA

Graphic presentation of the studied data includes histograms of the grade distributions of the two samples, and circle graphs displaying differences in attrition and persistence.

The histogram (Figures 1 and 2) displays graphically the relationship of the grade point averages between the veteran and non-veteran students. Their respective frequency distribution (Tables 1 and 2) illustrates the same data in tabular form. Because of the sample size and values of the variable an interval of size .5 was used rather than the usual educational formula producing 15 intervals.

FIGURE 1

GRADE POINT AVERAGES OF MALE VETERANS
NAPA COLLEGE, FALL QUARTER 1972

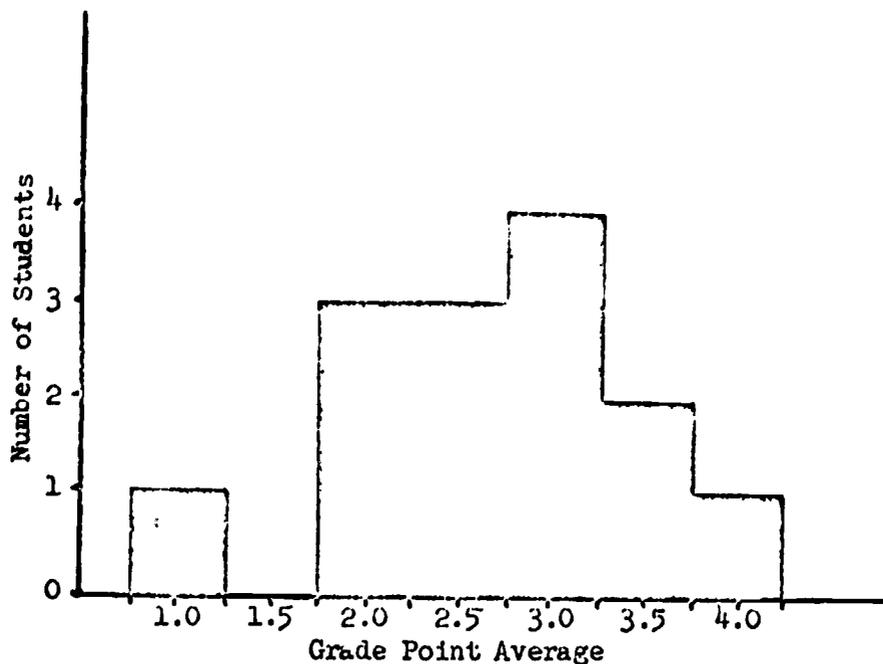


TABLE 1

GRADE POINT AVERAGES OF MALE VETERANS
NAPA COLLEGE, FALL QUARTER 1972

Frequency Distribution

<u>i</u>	<u>f</u>
3.75 - 4.25	1
3.25 - 3.75	2
2.75 - 3.25	4
2.25 - 2.75	3
1.75 - 2.25	3
1.25 - 1.75	0
.75 - 1.25	1

Range: 3.0

FIGURE 2

GRADE POINT AVERAGES OF MALE NON-VETERANS
 NAPA COLLEGE, FALL QUARTER 1972

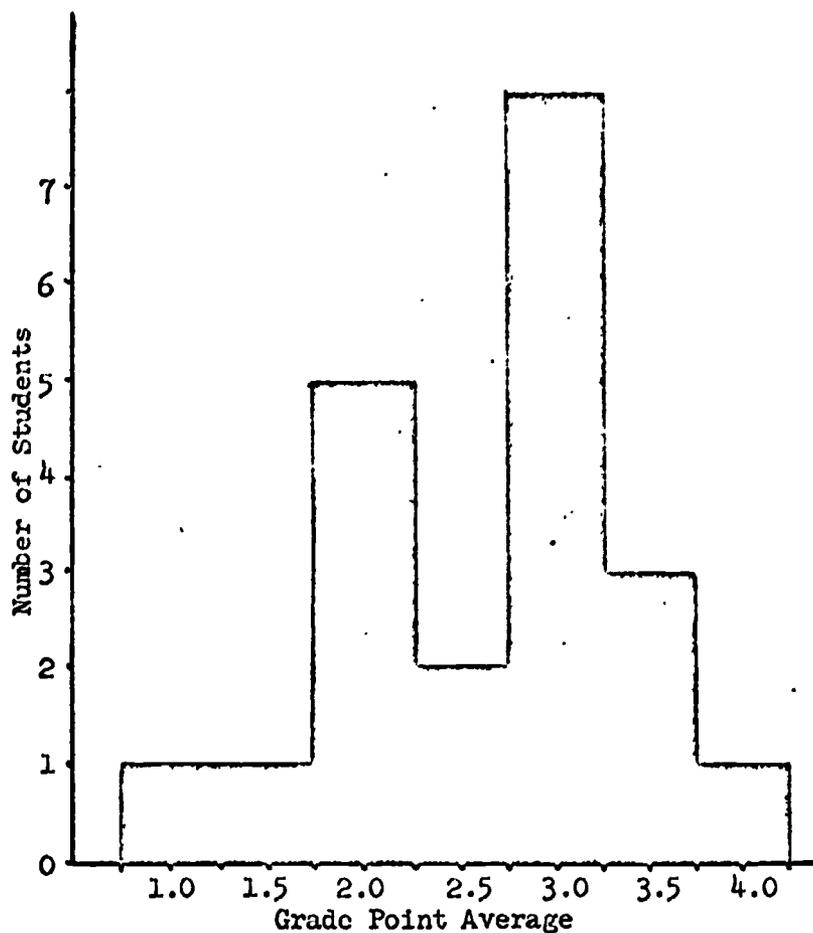


TABLE 2

GRADE POINT AVERAGES OF MALE NON-VETERANS
 NAPA COLLEGE, FALL QUARTER 1972

Frequency Distribution

<u>i</u>	<u>f</u>
3.75 - 4.25	1
3.25 - 3.75	3
2.75 - 3.25	8
2.25 - 2.75	2
1.75 - 2.25	5
1.25 - 1.75	1
.75 - 1.25	1

18

Range: 2.8

Circle graphs (Figures 3,4,5, & 6) displaying the attrition and persistence of veteran and non-veteran students are presented on pages 15 and 16.

FIGURE 3

MALE VETERAN ATTRITION
NAPA COLLEGE, FALL QUARTER 1972

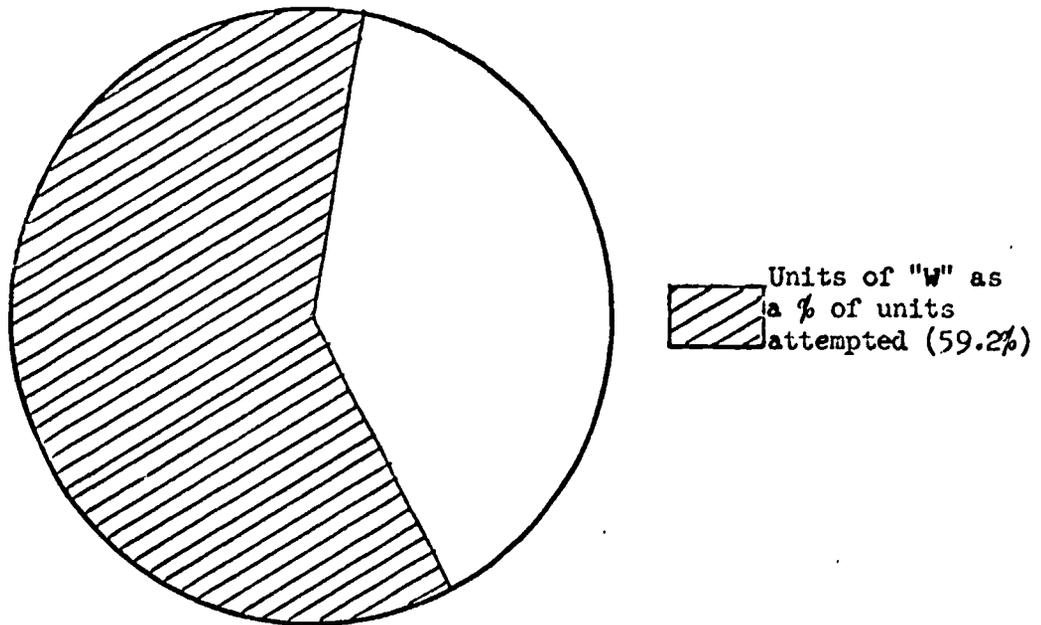


FIGURE 4

MALE NON-VETERAN ATTRITION
NAPA COLLEGE, FALL QUARTER 1972

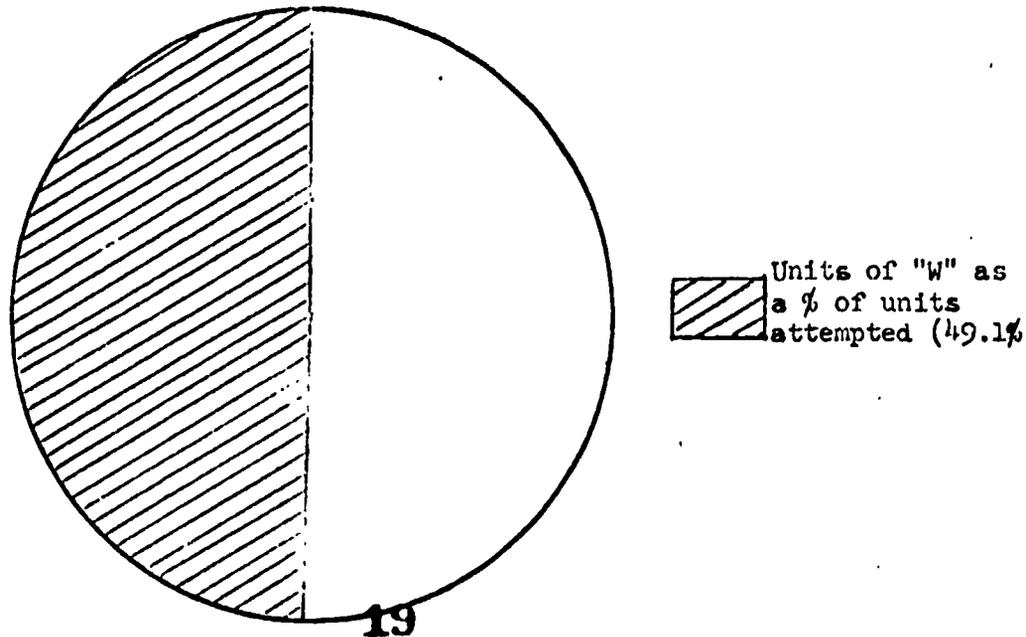


FIGURE 5
MALE VETERAN PERSISTENCE
NAPA COLLEGE, FALL QUARTER 1972

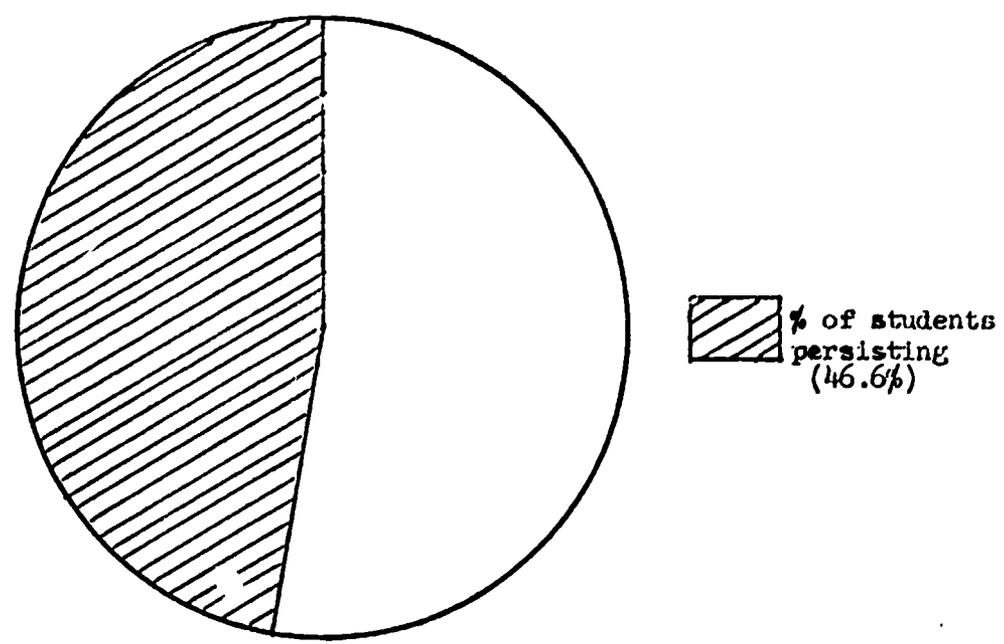
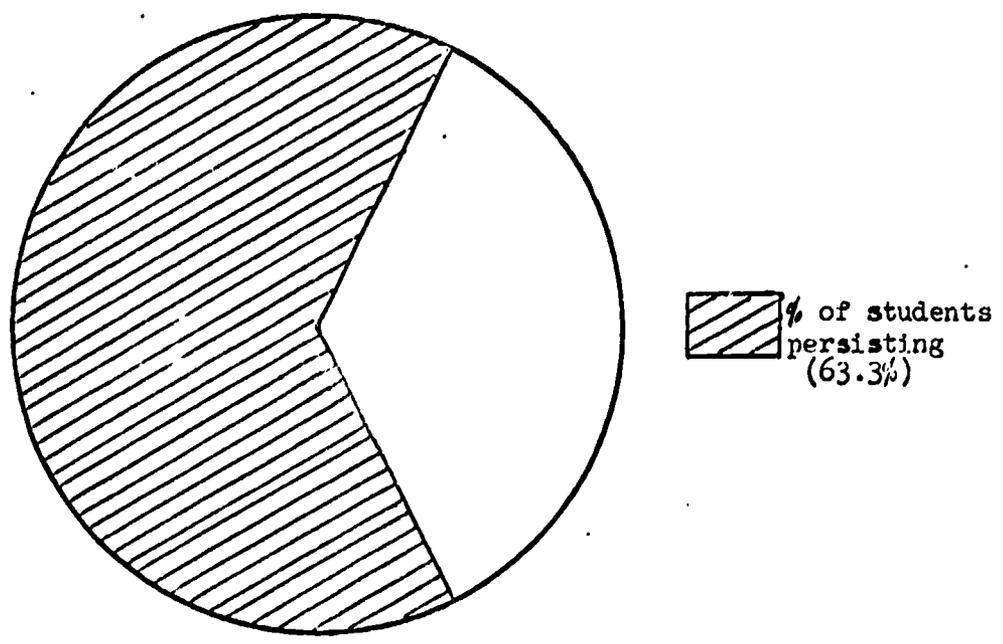


FIGURE 6
MALE NON-VETERAN PERSISTENCE
NAPA COLLEGE, FALL QUARTER 1972



A table illustrating persistence data of veteran and non-veteran students is included as Table 3 below.

TABLE 3

MALE VETERAN AND NON-VETERAN PERSISTENCE
NAPA COLLEGE, FALL QUARTER 1972

	Veterans	Non-Veterans
Persisted	14	19
Did not persist	16	11
Total*	30	30

*Total number of students in sample

ANALYSIS OF DATA

GRADE POINT AVERAGE

Criterion for Decision: Reject H_0 if $t > 1.693$ ¹¹

Confidence Level: .05

Degrees of Freedom: 33

Computed $t = -.008$

Since the computed value of "t" is not greater than the critical value of "t" there is no evidence to reject the null hypothesis: There is no significant difference between the mean grade point average of the two groups.

ATTRITION RATE

Criterion for Decision: Reject H_0 if $t > 1.672$ ¹²

Confidence Level: .05

Degrees of Freedom: 57

Computed $t = .918$

Since the computed value of "t" is not greater than the critical value of "t" there is no evidence to reject the null hypothesis: There is no significant difference between the mean attrition rates of the two groups.

¹¹The value of t for 33 degrees of freedom was obtained using linear interpolation from a table with entries for 30 and 40 degrees of freedom.

¹²The value of t for 57 degrees of freedom was obtained using linear interpolation from a table with entries for 40 and 60 degrees of freedom.

PERSISTENCE RATE

Criterion for Decision: Reject H_0 if $\chi^2 > 3.84$.

Confidence Level: .05

Degrees of Freedom: 1

Computed $\chi^2 = 3.59$

Since the computed value of " χ^2 " is not greater than the critical value of " χ^2 " there is no evidence to reject the null hypothesis: There is no significant difference in persistence between the two groups.

SUMMARY AND CONCLUSIONS

Motivation for the study was a proposal offered the Governing Board of Napa College which indicated a "special need" of veterans on the campus. To meet the special need, a special remedial program was proposed.

The "special need" was described in terms of lack of good grades, high drop out rates, and poor persistence on the part of veteran students. In the process of the study, a random sample of thirty students from each of the two groups of students was made in an effort to compare characteristics of veterans with non-veterans.

In the three areas investigated no evidence was found to indicate a significant difference between veterans and non-veterans on the Napa College campus. No evidence was found to reject the over-riding hypothesis which was the initial motivation for this study.

The question of the desirability of a special program was not directly addressed or answered by this study. Even though there may not be a "special need" in terms of differences in grade point averages, attrition rates and persistence, a "special program" could still be an appropriate and viable action for the college.

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