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ABSTRACT

This paper reports the results of a major research effort by the Northern California Cooperative Research Group (Nor Cal) and the Coordinating Council for Higher Education (CCHE) in California to study junior college attrition. This study differs from the original Nor Cal attrition study in that it was designed to follow up those students who completed one or more terms before withdrawing (stopouts) as opposed to those students withdrawing during their first term (dropouts). The research design for the three Nor Cal-CCHE follow-up studies involved sending a questionnaire (included in the appendix) to stopouts completing only one, two, or three terms. The characteristics of the three groups of stopouts are compared and their similarities and differences are discussed. The stopouts perceived two areas as needing improvement: (1) increasing financial aid to a larger proportion of those who need it; and (2) developing a more realistic view of responsibility in career education. (NF)

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CALIFORNIA COMMUNITY COLLEGE STOPOUTS:

A COMPARISON OF THE THREE NOR CAL - CCHE

FOLLOW-UP STUDIES

by

DONALD L. KESTER  
PROJECT DIRECTOR

December 1971

UNIVERSITY OF CALIF.  
LOS ANGELES

JAN 17 1972

CLEARINGHOUSE FOR  
JUNIOR COLLEGE  
INFORMATION

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JC 720 007

The ostrich stance regarding such matters as high student attrition rates is not tolerable in these times...

It is appropriate that concern about the lack of persistence among community college students be expressed. The record would suggest that the colleges themselves are failing to offer programs and services of a nature and in a manner that hold students. This problem should be one of the greatest priorities for research and deliberation on the part of those individuals in state agencies responsible for the planning of community colleges.

Tillery, Dale and Leland L. Medsker, Breaking The Access Barriers. McGraw-Hill Book Company, New York, 1971, pp. 147, 49.

## TABLE OF CONTENTS

	Page
PREFACE	1
PART I INTRODUCTION	4
PART II THE SAMPLES OF STOPOUTS ARE OPERATIONALLY DEFINED AND CONTACTED	8
PART III DISPLAY OF THE QUESTIONNAIRE RESULTS	10
PART IV SOME INTERESTING SIMILARITIES AND DIFFERENCES	25
PART V CONCLUSION	34
APPENDICES:	38
Form Letter to "Stopouts"	
Second Follow-Up Questionnaire	
Third Follow-Up Questionnaire	
Nor Cal Diagnostic Questionnaire	
BIBLIOGRAPHY	42

## PREFACE

The author of this report has had the privilege of working closely with the members of the Nor Cal Research Group for three and one-half good, exciting years; first as an individual college's representative to the Nor Cal consortium, and then as Project Director during the third, experimental phase of the Three Year Nor Cal Attrition Study.

There is something magnetic and unique at Nor Cal. When Dr. Tom MacMillan, Project Director for the first two phases of the Three Year Nor Cal Attrition Study, moved to Santa Barbara City College he said to me, "Don, you will never find a more capable, congenial, and intensely motivated group of action-oriented community college researchers than there are in the Nor Cal consortium. You will find working with them to be very exciting and immensely satisfying." Tom was never more right. There is a kind of "spirit" that pervades Nor Cal. A kind of "Rah! Rah!" Vince Lombardi or Knute Rockne esprit de corps. The kind of spirit and dedication that is necessary for the whole voluntary consortium idea to work.

Over these last few years it has been my pleasure to watch men and women volunteer to leave their comfortable homes, drive 50 to 150 miles, and work for an entire weekend, or week night on Nor Cal research matters. To the Nor Cal Steering Committee, to the total Nor Cal membership, I say thanks for letting me be a part of your exciting enterprise.

As Tillery and Medsker state, community colleges and state planning agencies should be concerned about the lack of persistence among students, and should give this problem a high priority for research. (Tillery and Medsker, 1971, p. 49) With the completion of the Three Year Nor Cal Attrition Study and with this present completion of this Nor Cal - CCHE Study, both Nor Cal and the Coordinating Council have shown by their actions that research on community college attrition has a high priority.

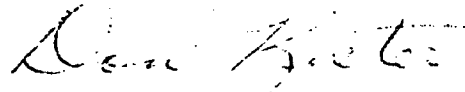
While neither study provides a panacea, valuable lessons have been learned in both. While the Three Year Nor Cal Attrition Study proved that California community colleges could unite in a voluntary consortium and do meaningful research, it also showed that (1) community college potential drop-outs could be diagnostically identified before they dropped-out, and (2) community colleges could reach those so identified and help them toward better performance. The present Nor Cal - CCHE Study provides valuable descriptive information regarding similarities and differences between three groups of community college "stopouts."

The facts are that in Phase III, twenty-eight California community colleges participated in the Three Year Nor Cal Attrition Study, and twenty-eight thousand community college students took the Nor Cal questionnaire. This amounts to one in every three California community college participating and one in every seven first-time, full-time day California community college student participating in the Nor Cal Attrition Study. Furthermore twenty-two different California community colleges participated in the three Nor Cal -

CCHE follow-up studies. While the total number of "stopouts" responding was 2037, the random sampling procedures insure that the descriptive data presented here represent the three groups of Nor Cal - CCHE "stopouts." These two studies taken together represent two of the most broadly based, intensive, and recent studies of California community college attrition presently available.

Appreciation is given to the participating Nor Cal colleges and to the Coordinating Council for Higher Education for making the present study possible.

Respectfully submitted,



Donald L. Kester  
Nor Cal - CCHE Project Director, and  
Registrar, Napa College

December, 1971

## PART I

### INTRODUCTION

#### CCHE And Nor Cal Put It Together

It was inevitable that the Coordinating Council for Higher Education in California (CCHE) would team up with the Research Consortium known as the Northern California Cooperative Research Group (Nor Cal). The Council is charged with advising State-level decision makers on matters dealing with all of the State's activities in higher education, so the Council necessarily has an insatiable need for management information. The commitment of the people in the Nor Cal research group is of such a high level that the Nor Cal consortium itself has an insatiable desire to do meaningful research in Northern California community colleges. Given these two facts, it was a foredrawn conclusion that CCHE and Nor Cal would combine forces to do a meaningful cooperative research project. The only questions were: "How soon would this happen?" and "What would be the nature of the cooperative research project?".

As it happened, CCHE and Nor Cal lost no time in combining forces. This happened in the Spring of 1969 at about the time of the first publication of the Nor Cal research group (MacMillan, 1970a). At that time, a flirtation between CCHE and Nor Cal was consummated by the first contract between the two. The nature of the study was to determine the characteristics of selected Nor Cal community college dropouts.



From that point on, Nor Cal was involved in two research efforts. The first and of course major study was the Three Year Nor Cal Attrition Study. The second study was composed of a series of three follow-up studies that grew out of the Nor Cal - CCHE agreement. Since both research efforts concentrated on attrition in Northern California community colleges which belonged to the Nor Cal research consortium and since both defined "dropout" differently, some confusion developed.<sup>1</sup>

Because of some present confusion and the possibility of continued confusion in the future as attrition as a major concern of the Nor Cal consortium becomes past literature,<sup>2</sup> it seems imperative that the following attempt be made to provide present and future readers with a visual clue as to the distinction between the two Nor Cal attrition investigations. For the sake of clarification and because of the nature of the conflicting definitions of dropouts in the two studies, it seems appropriate to relabel the Nor Cal - CCHE ex-community college students as "STOPOUTS," as shown on the following diagram.

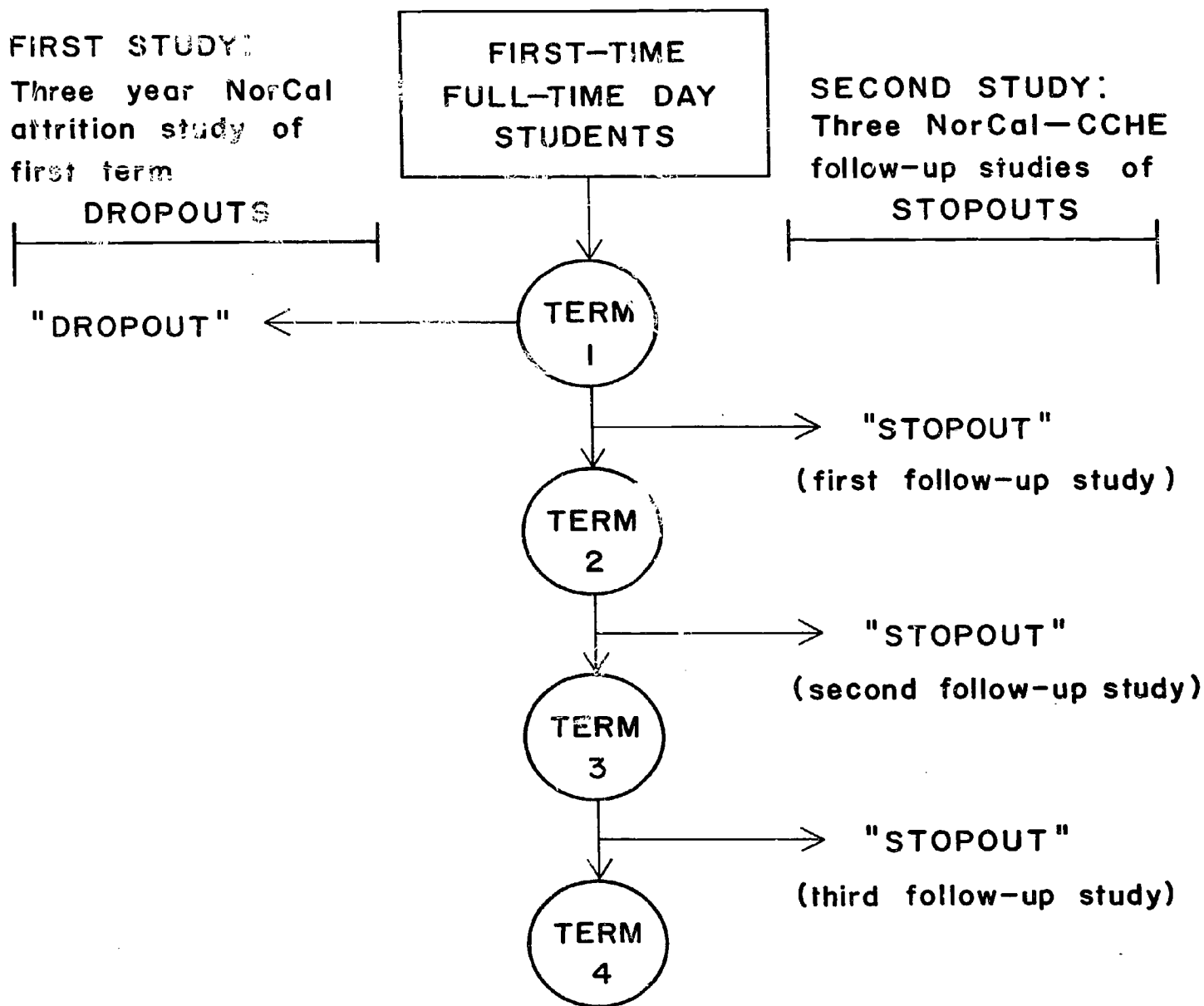
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<sup>1</sup>In the major Three Year Attrition Study a dropout was defined to be a first-time, full-time, day student who withdrew entirely from college during his first term of enrollment. In the three Nor Cal - CCHE follow-up studies a dropout was a first-time, full-time, day student who completed an academic term but did not return for the next term. To further complicate matters, descriptions of the results of the two investigations carried not only the Nor Cal name but were also issued under the same authors. (MacMillan, 1970a; MacMillan, 1960b, MacMillan, 1970c; Kester, 1970; Kester, 1971)

<sup>2</sup>As this report is sent to press, the Nor Cal consortium has turned its attention to a one-year (1970-71) concentrated VIP (Vocational Improvement Project) study. (Interested readers may contact Mr. Walt Brooks at Shasta College for more information).

FIGURE 1

Diagram of categories of ex community college students studied in two contemporaneous studies of attrition<sup>+</sup>



<sup>+</sup> Student flow model adapted from figure 3 "Student Movement Between Levels" in Student Flow Models, A Review And Conceptualization — Preliminary Review Edition, Technical Report 25, National Center for Higher Education Management Systems at WICHE, p. 42.

## PART II

### THE SAMPLES OF "STOPOUTS" ARE OPERATIONALLY DEFINED AND CONTACTED

The research design for the three Nor Cal - CCHE follow-up studies called for sending questionnaires to the three groups of "stopouts" as displayed in Figure 1. For the first follow-up study questionnaires were sent to ex-students who: were first-time, full-time, day students in the fall term 1969; completed the fall term 1969; and were not in attendance as of census week of the next academic term.

Similarly, for the second follow-up study of Nor Cal - CCHE "stopouts", questionnaires were sent to ex-students who: were first-time, full-time, day students in the fall 1969; were in continuous enrollment from census week fall 1969 through June 1970; and were not in attendance as of census week fall 1970.

Finally, for the third follow-up study of Nor Cal - CCHE "stopouts," questionnaires were sent to ex-students who: were first-time, full-time, day students in the fall of 1969; were in continuous enrollment from census week fall 1969 through June 1970; and completed fall term 1970; and were not in attendance as of census week Spring Semester 1971.

Under two contracts the council provided \$100 to each Nor Cal college that would follow-up its own "stopouts." The three follow-up studies saw the following sample sizes reached by the following colleges (See Table I).

Table I

Summary of Participating NorCal Community  
Colleges and Sizes of Responding NorCal-CCHE Stopout Samples

<u>College</u>	First Follow-up		Second Follow-up		Third Follow-up	
	<u>Responding Sample</u>	<u>College</u>	<u>Responding Sample</u>	<u>College</u>	<u>Responding Sample</u>	<u>College</u>
American River	15	American River College	23	American River College	15	American River College
Chabot College	11	City College of San Francisco	78	City College of San Francisco	33	City College of San Francisco
City College of San Francisco	68	Contra Costa Junior College	45	Contra Costa College	40	Contra Costa College
College of San Mateo	74	De Anza Junior College	74	De Anza Junior College	23	De Anza Junior College
College of the Sequoias	72	Diablo Valley College	49	Diablo Valley College	14	Diablo Valley College
Diablo Valley College	44	Foothill Junior College	37	Foothill Junior College	16	Foothill Junior College
Laney College	16	Laney College	18	Laney College	18	Laney College
Merced College	19	Merritt Junior College	16	Napa College	47	Napa College
Merritt College	15	Napa College	41	Porterville College	7	Porterville College
Porterville College	27	Porterville College	17	San Joaquin Delta College	63	San Joaquin Delta College
Santa Barbara City College	90	Reedley Junior College	61	San Jose City College	36	San Jose City College
Sierra College	115	San Joaquin Delta College	28	San Mateo Junior College	50	San Mateo Junior College
San Joaquin Delta	67	San Jose City College	76	Shasta College	17	Shasta College
San Jose City	77	San Mateo Junior College	26	Sierra College	40	Sierra College
Yuba College	20	Santa Barbara	28	Yuba City College	19	Yuba City College
No Identification	20	Shasta Junior College	77	Total	438	Total
Total	750	Sierra College	66	Total	849	Total
		Yuba City College	89			

## PART III

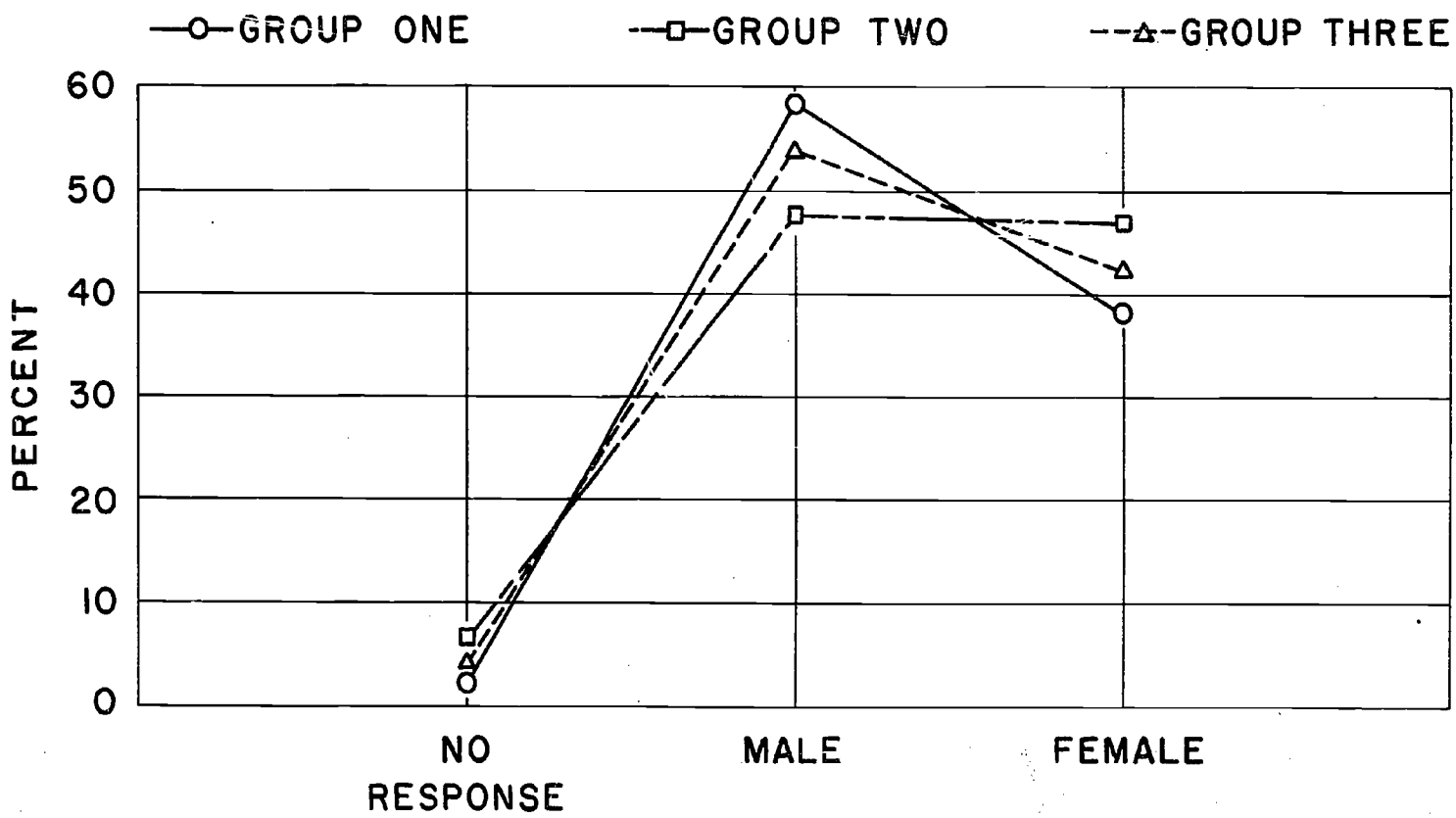
### DISPLAY OF QUESTIONNAIRE RESULTS

This part of the report provides a display of the distribution of responses to each of the nine questions. A graph of the distributions is also provided so that comparisons can be made between the results of the three follow-up studies. This part of the report simply presents the tabular and graphic displays of the responses. A brief commentary about similarities and differences between the three distributions will be presented in Part IV of this report.

The report was thus organized to provide the reader with these "facts" first. Pages 11 through 24 do just this. The descriptive consortium level statistics for the three follow-up studies now follow.

1. Sex

Follow-Up	Sample Size	No Response	Male	Female
First	750	1.9% 14	59.5% 446	38.7% 290
Second	849	5.5% 46	47.9% 407	46.6% 396
Third	438	3.4% 15	54.3% 238	42.3% 185



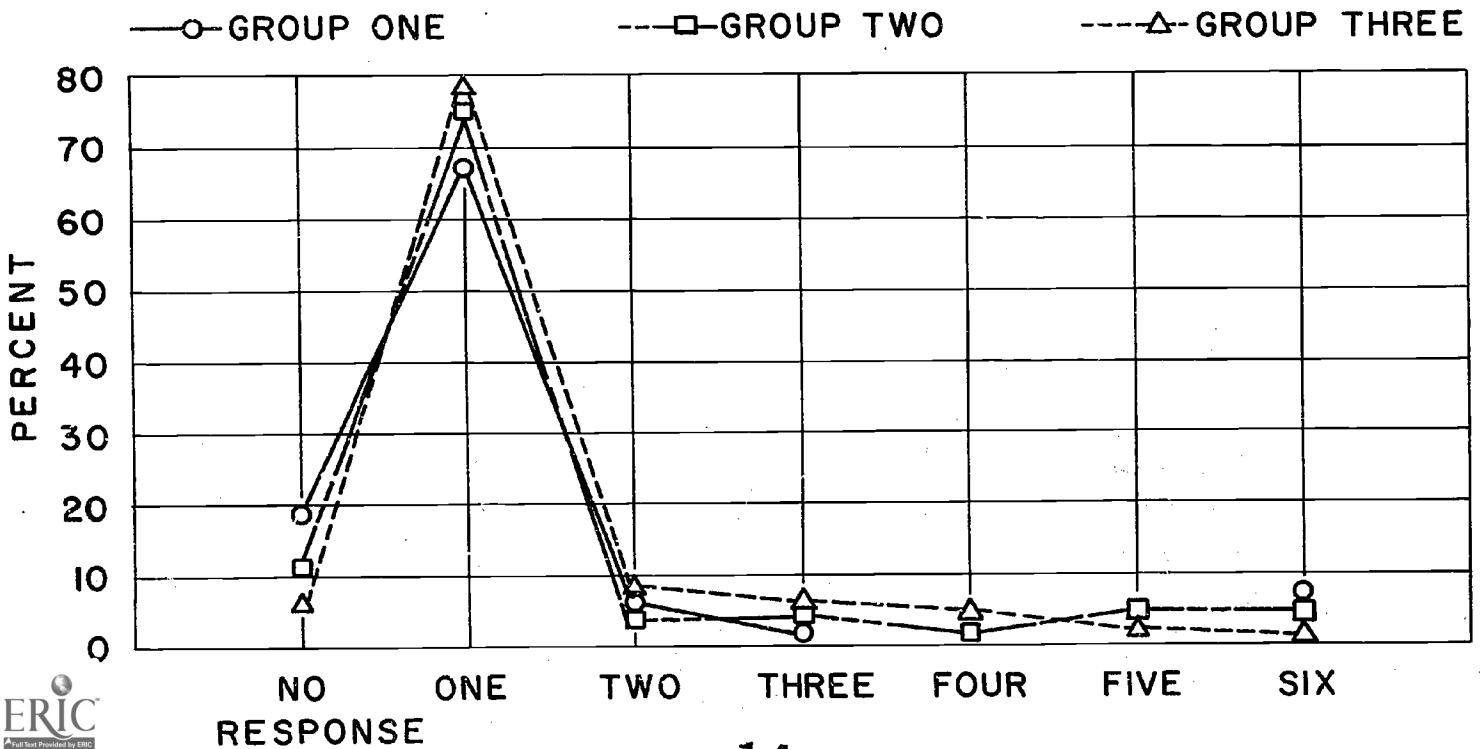
2. Racial or Ethnic Group

Key:

- 1 - Caucasian
- 2 - Chicano
- 3 - Black
- 4 - Indian\*
- 5 - Oriental
- 6 - Other

Follow-Up	Sample Size	No Response	One	Two	Three	Four	Five	Six
First	750	19.5% 146	69.3% 520	5.3% 40	2.9% 22			2.9% 22
Second	849	10.2% 87	76.3% 648	5.1% 43	3.5% 30	0.4% 3	2.9% 25	1.5% 13
Third	438	7.1% 31	79.0% 346	6.4% 28	3.6% 16	0.9% 4	1.8% 8	1.1% 5

\* Indian not a response category in the first follow-up



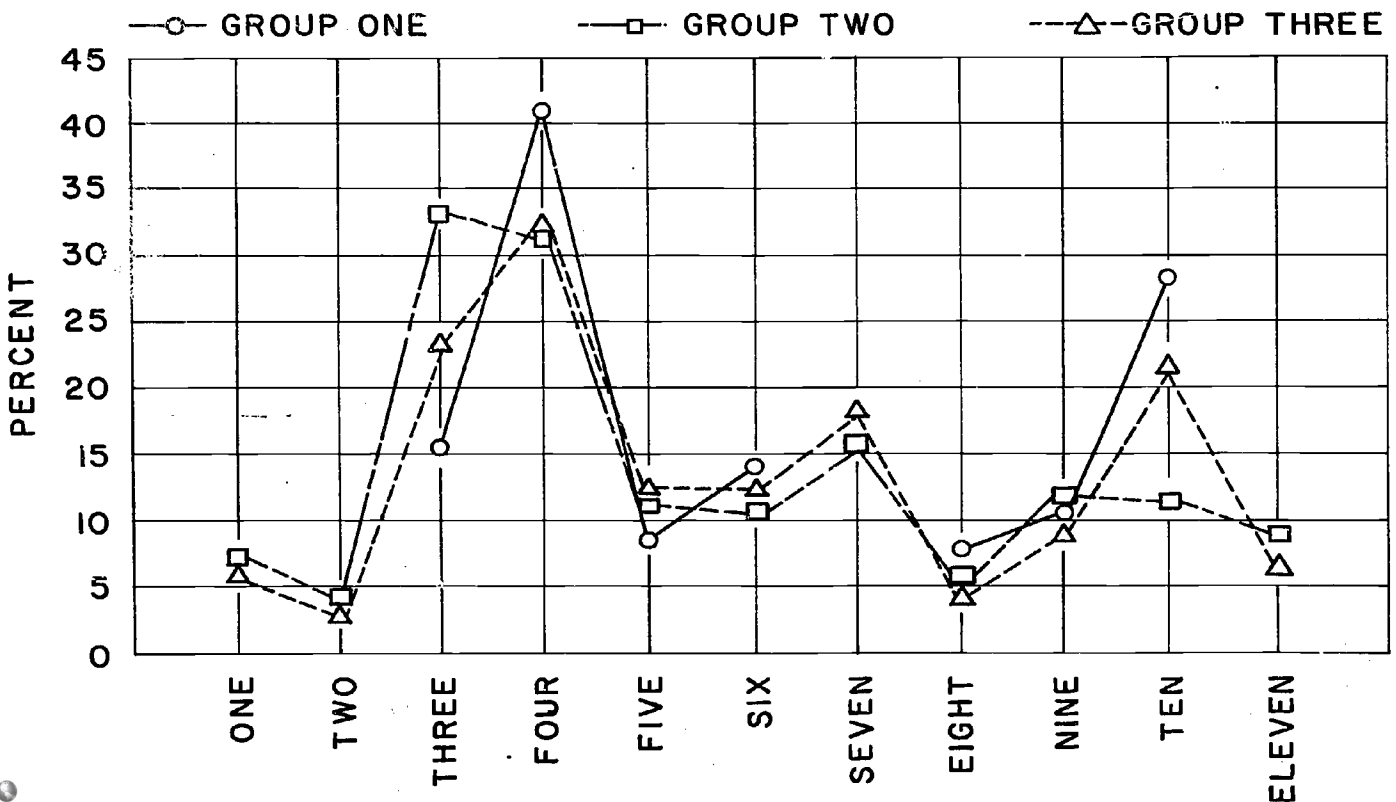
3. I did not re-enroll in the community college for the following reasons.  
(Several may apply.)

Key:

- 1 - I completed all the courses I intended to take.
- 2 - I completed a certificate program.
- 3 - I transferred to another college.
- 4 - I decided to take a job.
- 5 - I got married.
- 6 - I enlisted or was drafted into the service.
- 7 - I had financial problems.
- 8 - I had transportation problems.
- 9 - I couldn't get the courses I wanted at that school.
- 10 - I just wasn't motivated by my courses.
- 11 - Frankly, I left because my grades were pretty low. \*

Follow-Up	Sample Size	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten	Eleven
First	750			15.2% 114	41.2% 309	9.3% 70	14.7% 110	---	8.1% 61	10.7% 80	28.3% 212	
Second	849	6.7% 57	4.5% 38	34.6% 294	31.0% 263	12.4% 105	10.8% 92	16.1% 137	5.1% 43	10.8% 92	12.9% 152	9.8% 83
Third	438	6.4% 28	3.9% 19	24.7% 109	31.3% 134	13.0% 57	13.2% 58	18.9% 83	4.6% 20	9.6% 42	22.8% 100	6.8% 30

\* Three response categories were deleted: "Health problem", "Could not get enrolled in courses", "Got too far behind in my courses". Four response categories were added: One, Two, Seven and Eleven.

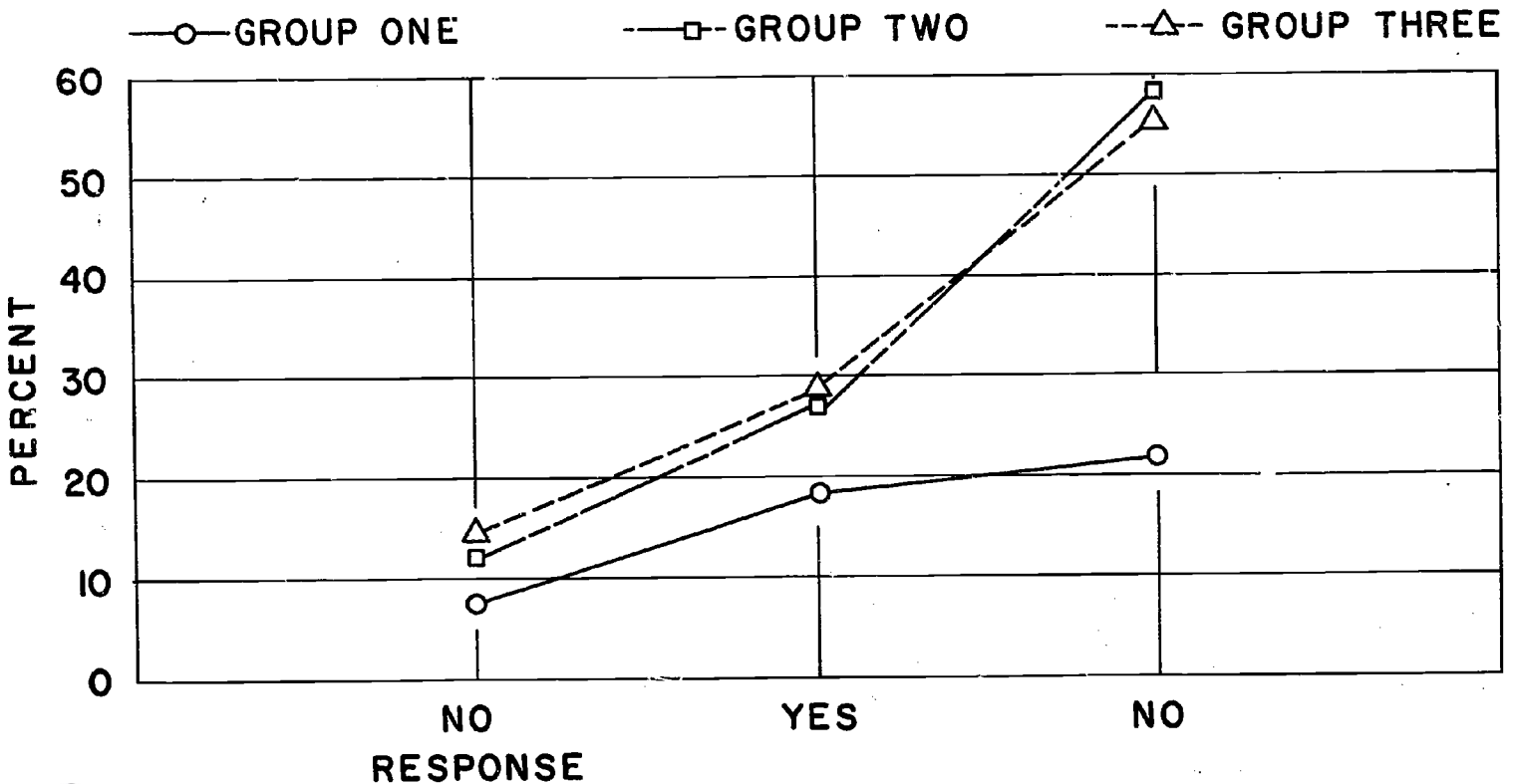




6. As far as you know, were you eligible for financial aid in 1969-70?

Follow-Up	Sample Size	No Response	Yes	No *
First	750	7.9% 59	19.3% 145	22.0% 165
Second	849	13.3% 113	28.6% 243	58.1% 493
Third	438	14.6% 64	29.0% 127	56.4% 247

\* An additional response category "Do not know" was used in the first follow-up. The response rate for this category was 50.8%.

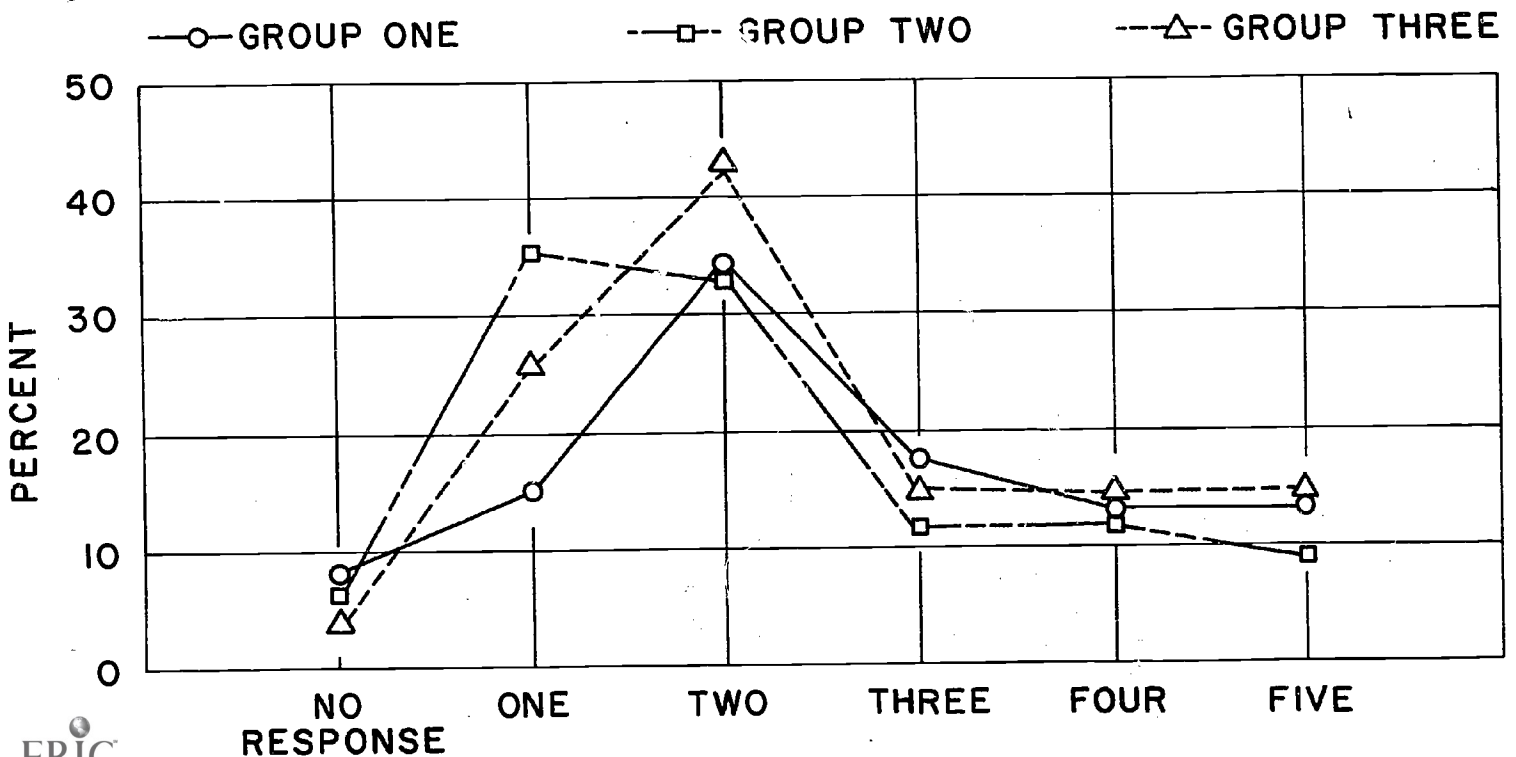


4. What are you doing now that you have left the school you attended last year?

Key:

- 1 - I'm enrolled at another college or university.
- 2 - I'm working full time.
- 3 - I'm looking for a job.
- 4 - I'm recently married.
- 5 - I'm in the service.

Follow-Up	Sample Size	No Response	One	Two	Three	Four	Five
First	750	8.7% 65	15.2% 114	33.7% 253	17.5% 131	12.3% 92	12.7% 95
Second	849	6.5% 55	35.3% 300	32.2% 273	10.2% 87	10.4% 88	8.2% 70
Third	438	5.9% 26	25.1% 110	41.6% 182	13.2% 58	11.6% 51	12.6% 55

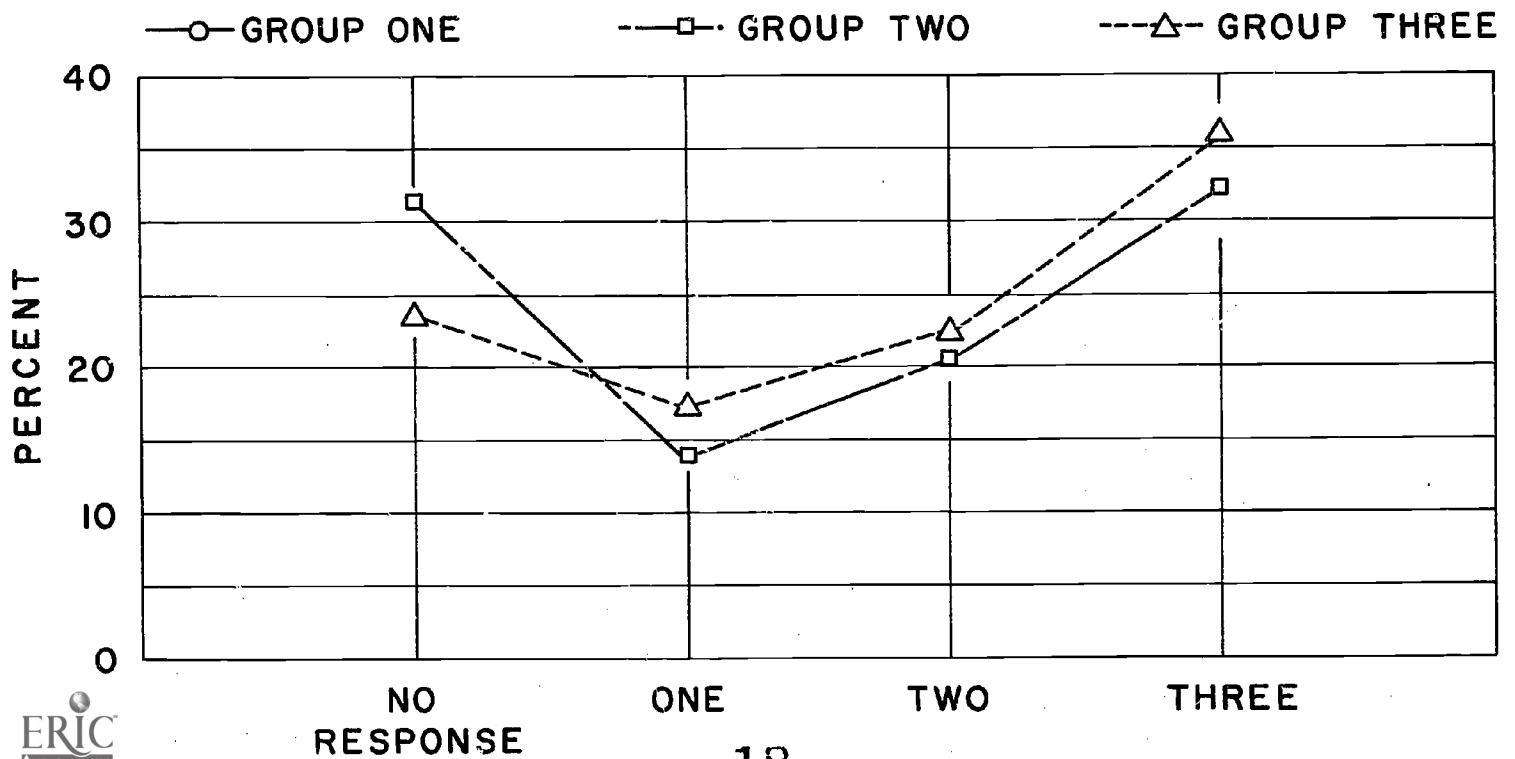


5. If you are working or looking for a job, were the courses you took related to your employment?

Key:

- 1 - The courses were directly related to my occupation.
- 2 - The courses may be helpful in my job, but they weren't directly related.
- 3 - There is no relationship between my courses and my employment.

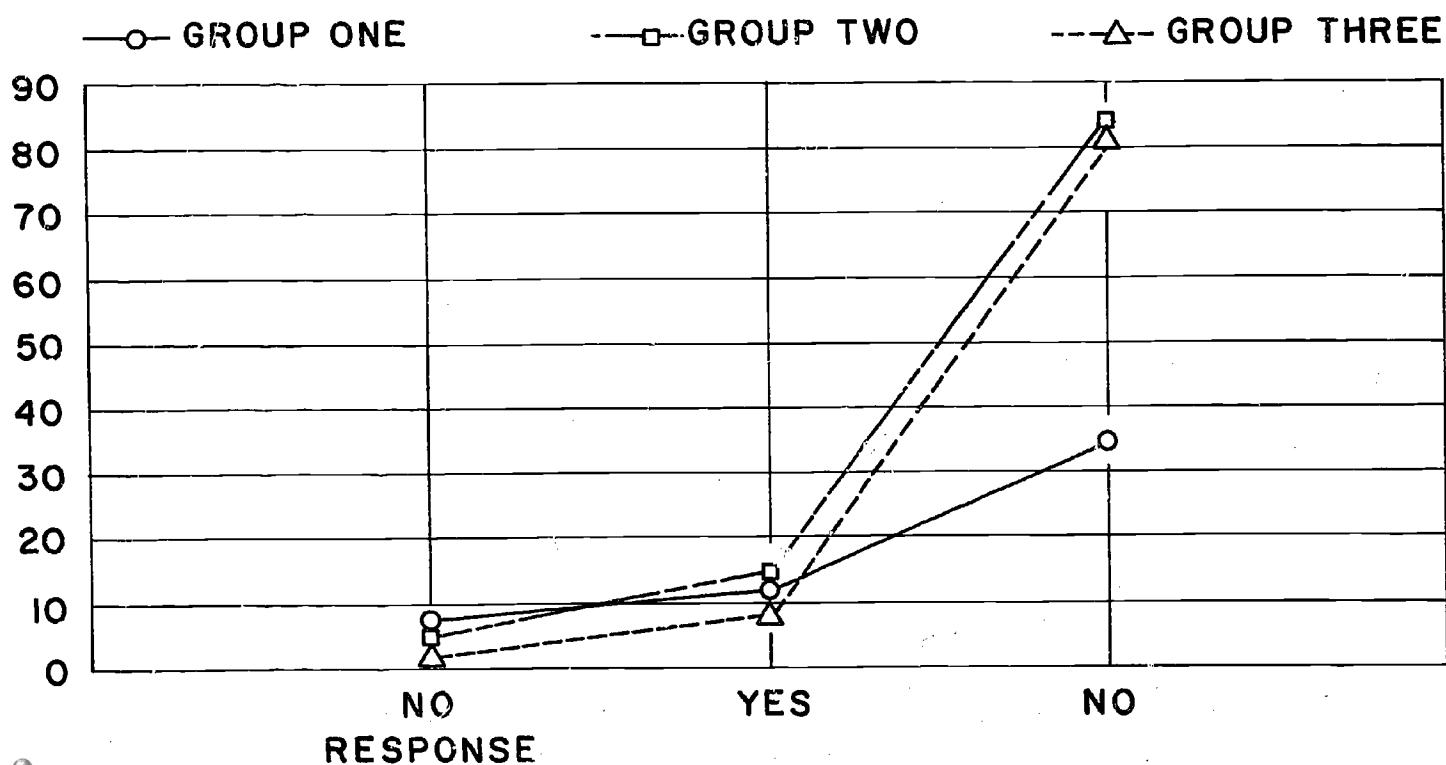
Follow-Up	Sample Size	No Response	One	Two	Three
First					
Second	849	31.4% 267	14.6% 124	20.9% 178	32.9% 280
Third	438	24.2% 106	17.6% 77	22.4% 98	35.8% 157



## 7. Did you receive financial aid during 1969-70?

Follow-Up	Sample Size	No Response	Yes	No *
First	750	7.6% 57	13.3% 100	36.8% 276
Second	849	4.9% 41	14.9% 121	85.0% 687
Third	438	1.1% 5	9.4% 41	82.0% 359

\* An additional response category "Did not apply" was used in the first follow-up. The response rate for this category was 42.3%.



## 8. How would you estimate your family's income?

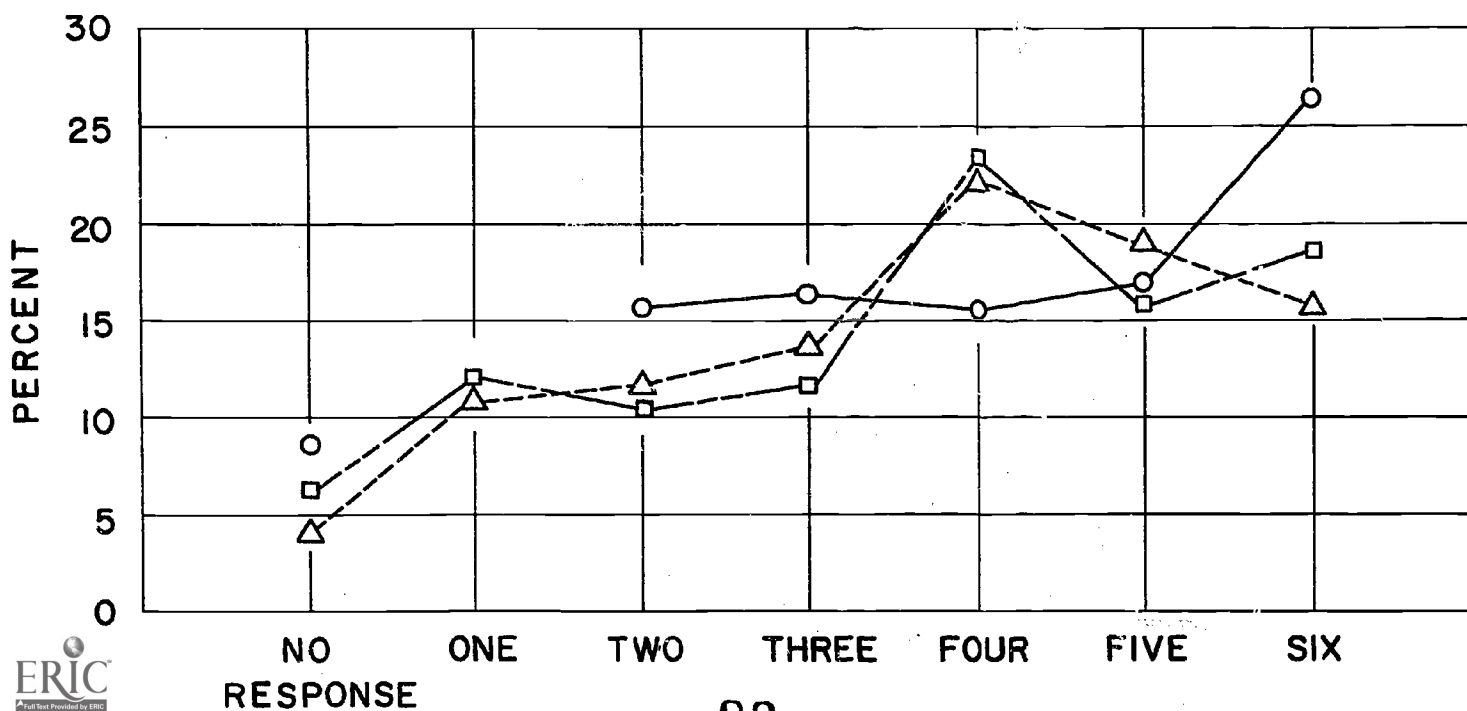
Key:

- 1 - I don't know. \*
- 2 - Relatively low income (under \$4500).
- 3 - Moderately low income (\$4500 to \$7500).
- 4 - Moderate income (\$7500 to \$10,500).
- 5 - Above average income (\$10,500 to \$13,500).
- 6 - Relatively high income (above \$13,500).

Follow-Up	Sample Size	No Response	One	Two	Three	Four	Five	Six
First	750	8.5% 64	---	15.7% 119	16.8% 125	15.2% 114	17.2% 129	26.6% 199
Second	849	6.0% 51	12.8% 109	10.8% 92	12.2% 104	23.7% 201	16.0% 136	18.4% 156
Third	438	4.6% 20	11.2% 49	11.4% 50	14.4% 63	23.3% 102	19.6% 86	15.5% 68

\* The first follow-up questionnaire did not include the "I don't know" category.

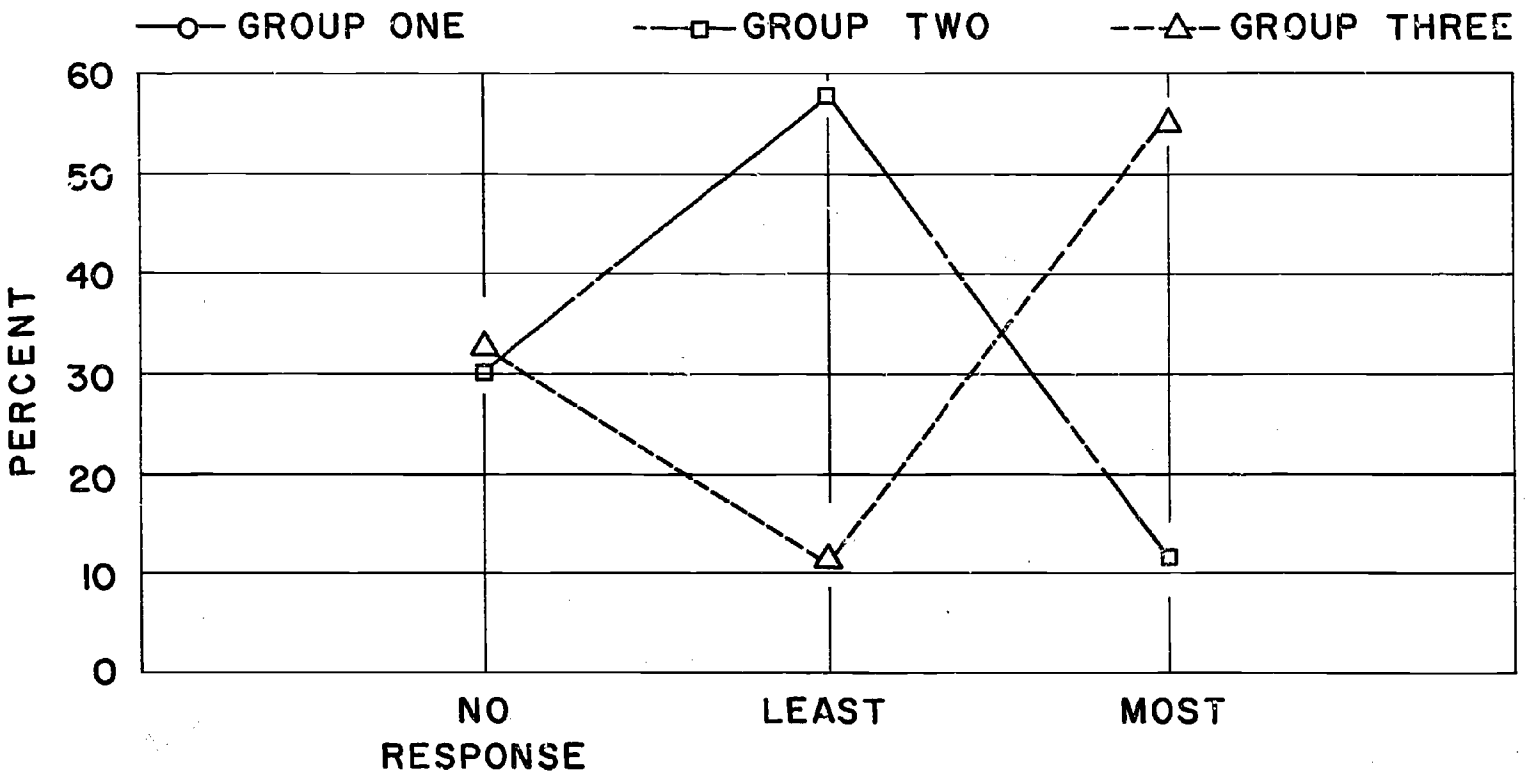
—○— GROUP ONE      —□— GROUP TWO      —△— GROUP THREE



9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

f. helping find a job through placement service

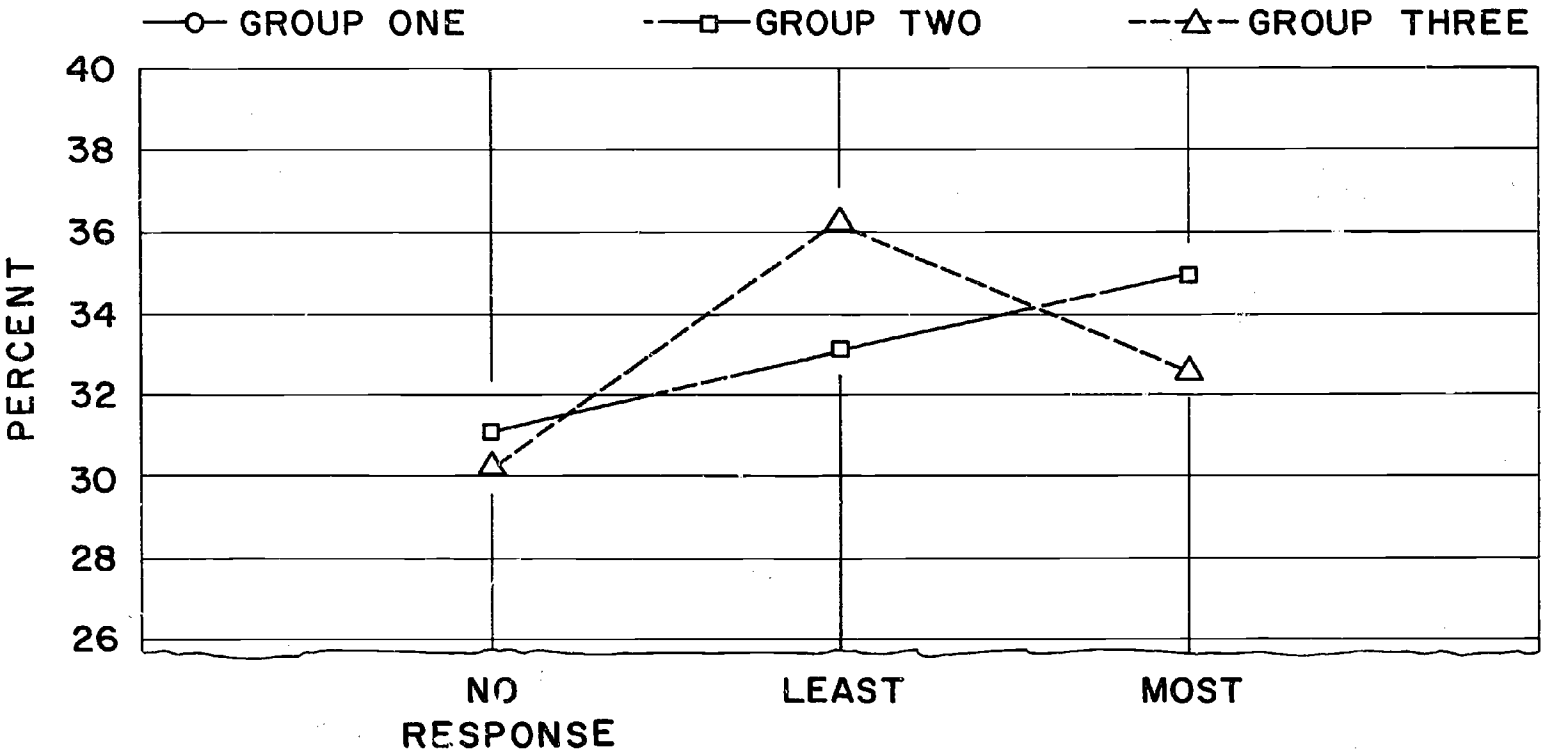
Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	30.0% 255	57.6% 489	12.4% 105
Third	438	32.4% 142	11.0% 48	56.6% 248



9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

e. helping make up some academic skills

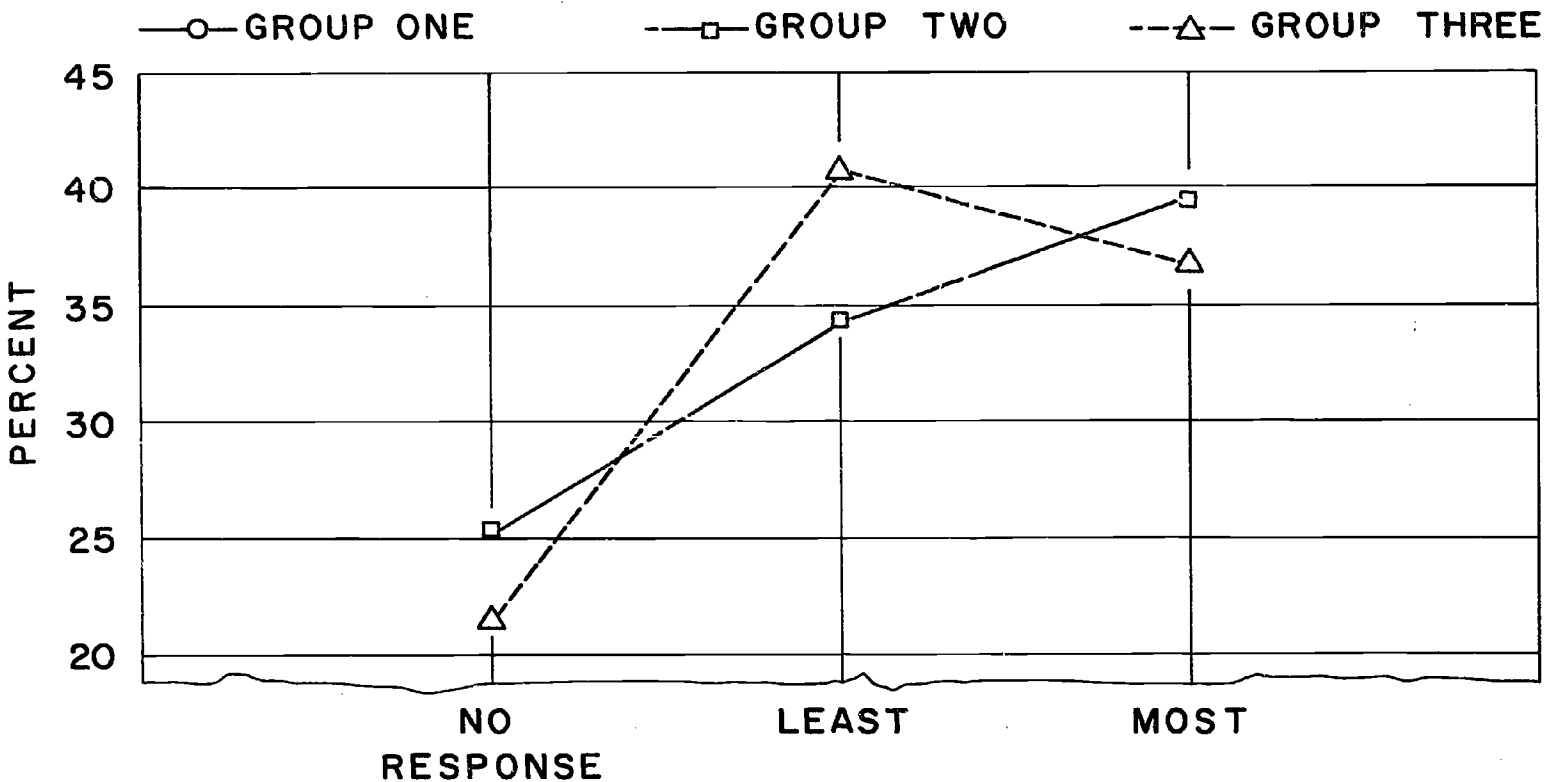
Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	31.1% 264	33.5% 284	35.4% 301
Third	438	30.6% 134	36.7% 161	32.7% 143



9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

d. helping get together personally

Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	25.6% 217	34.5% 293	39.9% 339
Third	438	22.6% 99	40.4% 177	37.0% 162

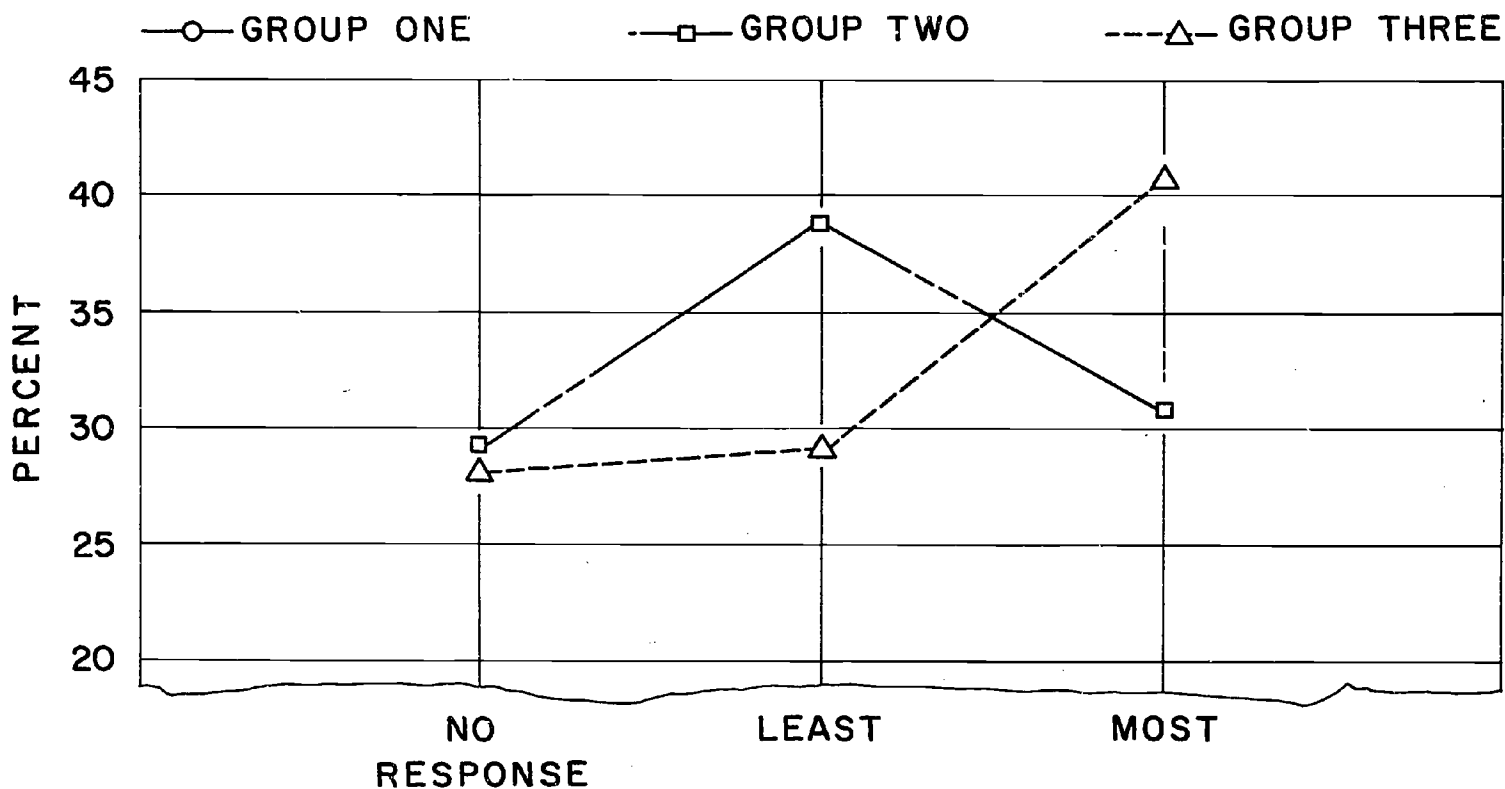




9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

c. helping decide what job to train for

Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	29.8% 253	38.5% 327	31.7% 269
Third	438	28.6% 125	29.9% 131	41.5% 182

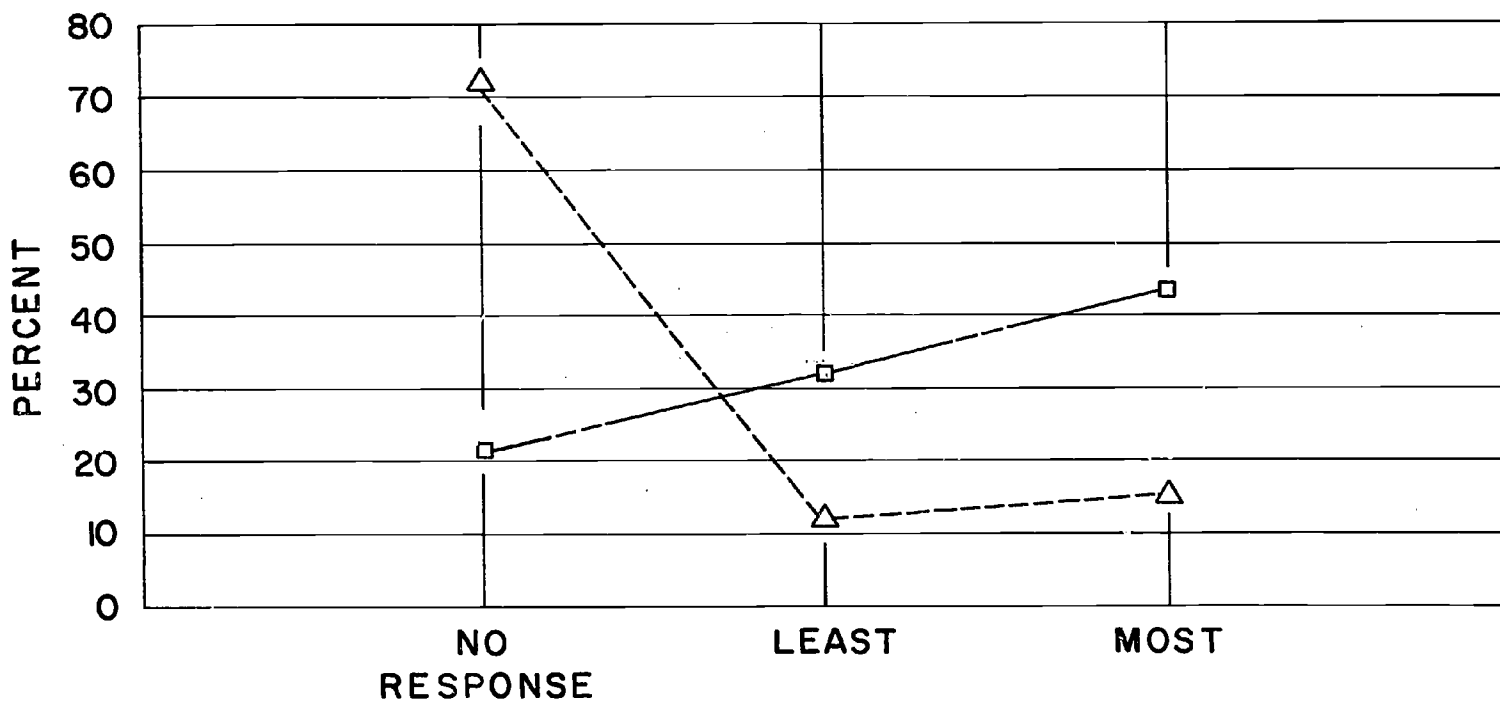


9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

b. helping to prepare for another school (transfer)

Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	21.3% 181	33.9% 288	44.8% 380
Third	438	71.0% 311	12.8% 56	16.2% 71

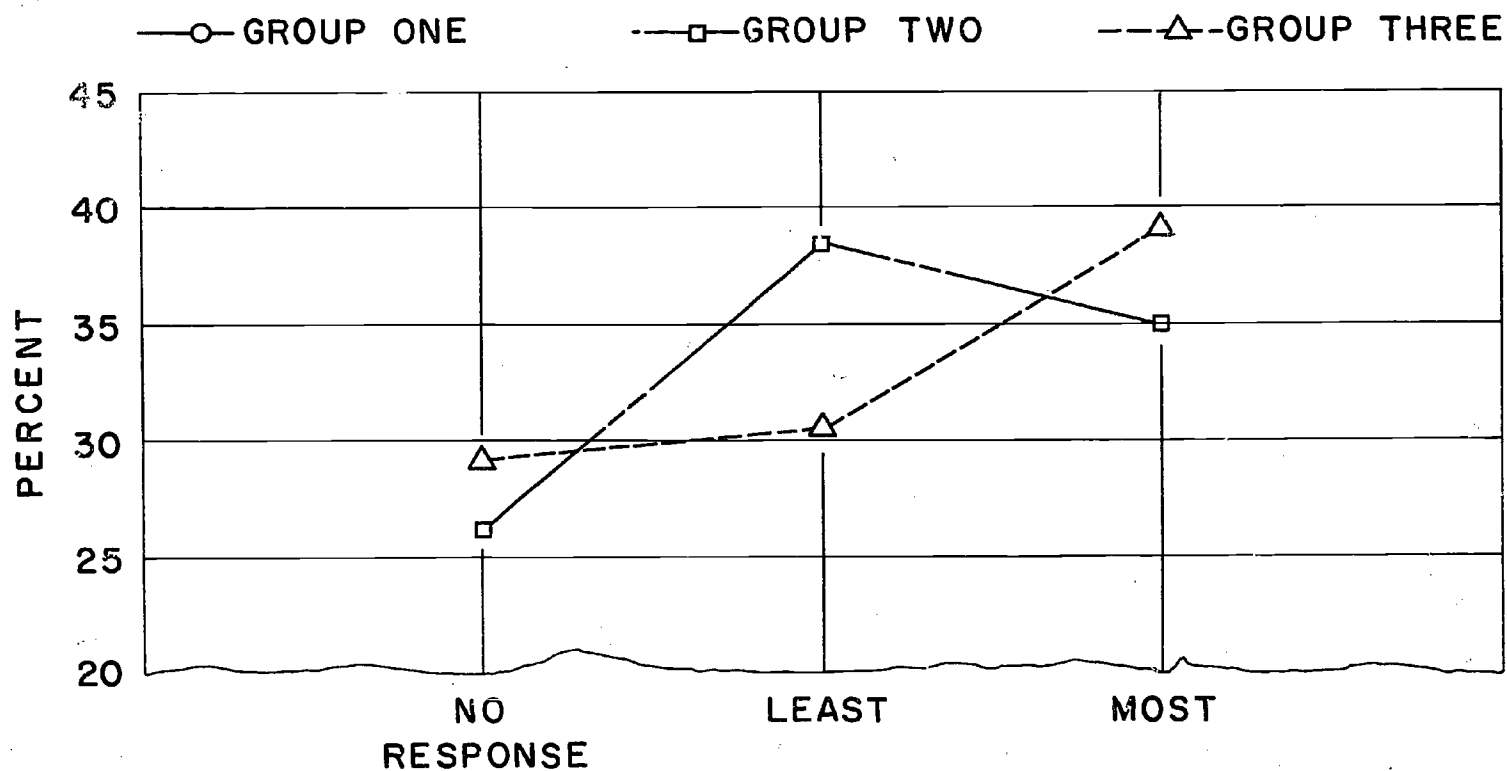
—○— GROUP ONE      —□— GROUP TWO      - - -△- GROUP THREE



9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70:

a. helping to prepare for a job

Follow-Up	Sample Size	No Response	Least	Most
First				
Second	849	26.4% 224	38.6% 328	35.0% 297
Third	438	29.2% 128	30.8% 135	39.9% 175



## PART IV

### SOME INTERESTING SIMILARITIES AND DIFFERENCES

#### Similarities

Looking at the trend across each of the three follow-up studies and at the total responses for all three follow-up studies taken together there are many questions for which response distributions were remarkably similar. In looking at the data this way, trends and patterns were especially evident.

Using the total of the three studies (N=2037), those who responded,<sup>3</sup> most of them were male (55.6); most of them were caucasian (85.4%); most of them did not re-enroll because they either: (a) transferred to another college (25.4%), or (b) decided to take a job (37.1%); most of them were either (a) enrolled at another college (27.7%), or (b) working full time (37.4%). For those who were working, about half (47.8%) found no relationship between their college courses and their employment. A fairly large share of the respondents believed themselves to be eligible for financial aid (36.3%). However, less than half of this percentage actually received financial aid (16.6%). From the questionnaire responses, it appears that most of the "stopouts" did not come from the lowest levels of poverty. Across the three studies a majority (58.5%) estimated their family's income to be above \$7500. In terms of valuable community college experiences only about half felt the community

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<sup>3</sup>The "No Response" category was excluded.

college had helped: (a) in preparing them for a job (50.3%); (b) in preparing them to transfer (56.7%); (c) them decide what job to train for (49.6%); (d) them get together personally (51.6%); (e) them make up some academic skills (49.9%); and (f) them find a job through placement service (39.7%). Again a majority (76%) of the sample students who anticipated a "financial" obstacle at time of entry to college reported "low income."

### Differences

There are at least seven differences that are statistically significant and interesting enough to deserve mention.<sup>4</sup>

These differences serve to distinguish the three groups of "stopouts" on several dimensions. The first two differences are found in response to question #3 - "I did not re-enroll in the community college for the following reasons: (several may apply.)" For the first follow-up study it is clear that most of the respondents (41.2%) chose category 4 - "I decided to take a job." For the second follow-up the first choice of respondents was category #3 - "I transferred to another college;" while for the third follow-up the first choice again was category #4 - "I decided to take a job." To see if this apparent trend was really a trend, the data were subjected to two tests of statistical inference; the question being, "Is category #3 - 'transferred' really higher for the second group of "stopouts"?"

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<sup>4</sup>The statistical tests which follow are those recommended in Standard Statistical Reference Books (Marascuilo, 1971; Gunther, 1965).

than for either of the other two groups?" As the two tables show the proportion that "transferred" is statistically higher for the second group of "stopouts."

Table II

Test for Significant Differences Between Proportions  
"Transferred" in the First and Second Groups of "Stopouts"

Follow-Up

	First	Second
"Transferred"	114	294
Other	636	555
Total	750	849
Percent "Transferred"	15.2%	34.6%

$$Z = 8.1$$

$$p < .001$$

Table III

Test for Significant Differences Between Proportions  
"Transferred" in the Second and Third Groups of "Stopouts"

Follow-Up

	Second	Third
"Transferred"	294	109
Other	555	329
Total	849	438
Percent "Transferred"	34.6%	24.7%

$$Z = 3.6$$

$$p < .001$$

Again for question #3, it appears there is a difference between the proportion choosing 10 - "I just wasn't motivated by my courses," This reason for not re-enrolling appears lower for the second group of "stopouts" than for the first and third groups. Two statistical tests of this hypothesis indicates that this apparent trend is also actual.

Table IV

Test for Significant Differences Between Proportion "Not Motivated" in the First and Second Groups of "Stopouts"

Follow-Up

	First	Second
"Not Motivated"	212	152
Other	538	697
Total	750	849
Percent "Not Motivated"	28.3%	12.9%

$$Z = 6.4$$

$$p < .001$$

Table V

Test for Significant Differences Between Proportions "Not Motivated" in the Second and Third Groups of "Stopouts"

Follow-Up

	Second	Third
"Not Motivated"	152	100
Other	697	338
Total	849	438
Percent "Not Motivated"	12.9%	22.8%

$$Z = 4.3$$

$$p < .001$$

For question #4 "What are you doing now that you have left the school you attended last year?" There is a trend similar to that which exists for question #3, reasons for not re-enrolling in the community college. For question #4 - "What are you doing now that you have left the school you attended last year?", there is an apparent tendency for those in the second "stopout" group to respond: "1 - I'm enrolled at another college or university," while those in the first and second group seem to tend to say: "2 - I'm working full-time." Again, statistical analysis shows this apparent trend to be actual as the next two tables show:

Table VI

Test for Significant Differences Between Proportions "Enrolled at Another College" in the First and Second Groups of "Stopouts"

Follow-Up

	First	Second
"Enrolled Other College"	114	300
Other	636	549
Total	750	849
Percent "Enrolled Other College"	15.2%	35.3%

$$Z = 8.4$$

$$p < .001$$



Table VII

Test for Significant Differences Between Proportions "Enrolled at Other Colleges" in the Second and Third Groups of Stopouts"

Follow-Up

	Second	Third
"Enrolled Other College"	300	110
Other	549	328
Total	849	438
Percent "Enrolled Other College"	35.3%	25.1%

$$Z = 4.2$$

$$p < .001$$

Other differences appear in response to question #9 - "Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college:?" An apparent difference appears between the second and third group of "stopouts" in regard to #9a - "helping to prepare for a job." It appears that ex-students in the third group of "stopouts" regard this as more valuable than ex-students in the second group. Statistical analysis confirms this.

Table VIII

Test for Significant Differences Between Proportions Choosing "Job Preparation" as "Most Valuable" in the Second and Third Groups of "Stopouts"

Follow-Up

	Second	Third
Choosing Job Preparation as Most Valuable"	297	175
Other	328	135
Total	628	310
Percent Choosing "Job Preparation..."	47.3%	56.5%

$$Z = 2.7$$

$$p < .01$$

Apparently more ex-students in "stopout" group three believe 9c - "helping me decide what job to train for," was a "most valuable" experience. Statistical analysis confirms this too.

Table IX

Test for Significant Differences Between Proportions Choosing  
"Deciding What Job to Train For" as "Most Valuable"  
in the Second and Third Groups of "Stopouts"

Follow-Up

	<u>Second</u>	<u>Third</u>
"Deciding What Job to Train For	269	182
Other	327	131
Total	596	313
Percent "Deciding What Job to Train For	45.1%	58.1%

$$Z = 3.8$$

$$p < .001$$

By far the most statistically significant difference is found between groups two and three on question 9f - "helping find a job through placement service." An overwhelming majority in the second group of "stopouts" consider this to be in the "least valuable" category, while an overwhelming majority of the "Stopouts" in the third group consider this to be in the "most valuable" category. Statistical analysis shows the strength of the difference.

Table X

Test for Significant Differences Between Proportions Choosing  
 "Finding a Job Through Placement" as "Most Valuable"  
 in the Second and Third Groups of "Stopouts"

Follow-Up

	Second	Third
Job Through Placement	105	248
Other	489	48
Total	594	296
Percent "Job Through Placement"	12.4%	83.8%

$$Z = 18.9$$

$$p < .0001$$

FIGURE 2

Display of Statistically Significant Differences in Response Patterns Between Three Groups of Community College "Stopouts"

	Why Did You Not Reenroll in the Community College?	Why Did You Not Reenroll in the Community College?	What Are You Doing Now That You Have Left The Community College?	What Were the Most Valuable Areas of Your Experience at the Community College
First Group of "STOPOUTS"	I decided to take a job.	I just wasn't motivated by my courses	I'm working full time	
Second Group of "STOPOUTS"	I transferred to another college.		I'm enrolled at another college or university.	
Third Group of "STOPOUTS"	I decided to take a job.	I just wasn't motivated by my courses.	I'm working full time	Helping me prepare for a job, helping me decide what job to train for, helping me find a job through placement service.

## PART V

### CONCLUSION

It is not the position of this report to say that community colleges are not doing a good job. As Tillery and Medsker state:

Perhaps it could be said that the sheer growth and recognition of the community college reflect its significance since, if it were not filling perceived needs, it would hardly be expected to increase in size and stature. (Tillery and Medsker, 1971, p.136)

On the other hand, the questionnaire results do indicate areas perceived by "stopouts" as those which could be improved. Two areas especially deserve mention: (1) Need for increasing financial aid to a larger proportion of those who need it; and (2) Need for a more realistic view of responsibility in career education.

The fact that only 16.6% of the "stopouts" received financial aid when 36.3% believed themselves eligible for financial aid coupled with the fact that most entering students who felt they would have financial difficulty did later say finances figured in their withdrawal may say that the community college financial aid program needs expanding. While most "stopouts" did not come from poverty level environments those who did represent a segment of our entering student population for whom promises of equal opportunity may seem like a "put-on." It is known that different groups of students encounter different problems. (Greene, Caroline and Donald L. Kester, 1965) It is clear from the present study that more should be done to help those for whom finances are a

crucial problem.

Recent research has confirmed the fact that most students describe the goals of their education as essentially occupational (Tiller, etal, 1969) Given this expectancy on the part of students the response patterns of two questions are disconcerting. For those "stopouts" who were working about half (47.8%) found virtually no relationship between their college courses and their en      ment. Another 29.5% found their college courses only "helpful," while only 23.2% found their courses directly related to their employment. Furthermore only about half of the "stopouts" felt that their college experiences had helped prepare them for a job (50.3%), helped them decide what job to prepare for (49.6%) or helped them find a job through placement (39.7%).

The Carnegie Commission on Higher Education may emphasize that community college education should stress one-year certificate programs, short-term training, and occupational renewal programs. (The Open Door Colleges, 1970, p.20) But as Tillery and Medsker point out career guidance is a particular component of the comprehensive program that remains generally underdeveloped. (Tillery and Medsker, 1971, p.140).

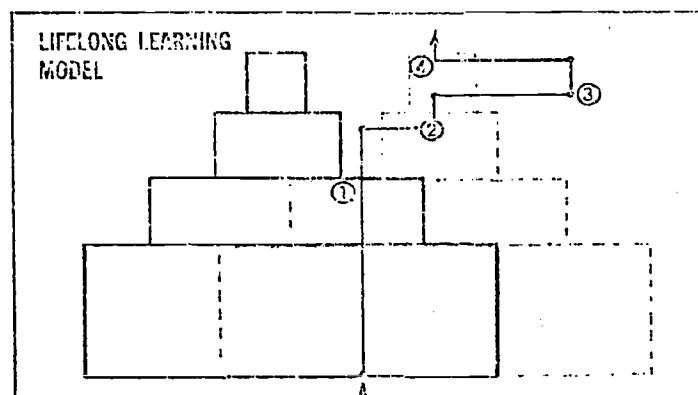
At the turn of the present century, William Rainey Harper called for the "bifurcating" of the university. This was to mean that students could "stop naturally and honorably at the end of their sophomore year." (The Open Door Colleges, 1970, pp. 9, 10) What seems to be needed now is a "bifurcation" of the community college programs such that career education becomes fully developed.

The "stopout" respondents in this study seem to be asking for career ladder education. They seem to be knocking the notion that it is enough "to provide a chance to walk through the college gate." (Frank Newman, etal, Report on Higher Education, 1971, p.3). These "stopouts" seem to be saying, as Newman does, "...there must also be access to a useful and personally significant educational experience." (Ibid.)

As Figure 2 in this report shows, real help in the area of career guidance seems to be postponed until students have progressed through a full year plus one term. What is needed is a renewed commitment toward continual education in which students can stopout and come back at will, without social stigma. Further they need to leave with the real feeling that their college experience has been of both occupational and personal benefit to them.

Particular attention should be paid to life-long learning models like the one proposed by K. Patricia Cross, and shown below. (Cross, Patricia, 1971)

Figure 3



If lifelong learning - career ladder models became more important, and greater support were provided to reach potential dropouts, the field of community college education could move upwards from being "good" education to being "excellent" education.



# APPENDIX



**DE ANZA  
COLLEGE**

FOOTHILL COMMUNITY  
COLLEGE DISTRICT

21250 Stevens Creek Blvd.  
Cupertino  
California 95014  
(408) 257-5550

Dear Student or Former Student:

Will you take a few minutes to help your community college?

Educators at De Anza College and at Foothill College are trying to evaluate the services to students. Clearly the best way to find out how well these services are doing is to ask the students themselves. Your evaluation will allow recognition for those services that are doing a good job as well as those that are not doing a good job.

When you have completed the questionnaire, please return it by way of the enclosed envelope.

Of course your individual answers will not be revealed. The only reason we are asking for your name is so we can send reminders to those who don't reply, and so we can relate the responses to college data at each school.

Please send the response back today. Every response is important for planning to serve students better, and we're sure you share our interest in improving education.

Very truly yours,

Donald L. Kester  
Consultant  
Coordinating Council for Higher Education  
De Anza College

DLK:ek  
Enclosures

# NORCAL - C C H E PROJECT

This questionnaire is being mailed to all students who were enrolled in selected California community colleges during the 1969-70 academic year, but failed to return for the 1970-71 Fall semester. The only way we can evaluate our program and services is by asking you these questions. Every response is important, so please help us to improve our colleges by taking the next few minutes to respond to these important questions. Indicate your answers by making an "X" in the box to the left of the statements that apply.

Thank you for your help.

NAME \_\_\_\_\_  MALE  FEMALE

LAST NAME FIRST NAME MIDDLE INITIAL SOCIAL SECURITY NO. \_\_\_\_\_

RACIAL OR ETHNIC GROUP (optional)  CAUCASIAN  CAUCASIAN, SPANISH SURNAME (CHICANO)  BLACK (AFRO-AMERICAN)  AMERICAN INDIAN  ORIENTAL  OTHER

1. Why did you not re-enroll in the community college for the following reason(s). (Several may apply)

- I completed all the courses I intended to take
- I completed a certificate program
- I transferred to another college
- I decided to take a job
- I got married
- I enlisted or was drafted into the service
- I had financial problems
- I had transportation problems
- I couldn't get the courses I wanted at that school
- I just wasn't motivated by my courses
- Frankly, I left because my grades were pretty low

4. What are you doing now that you have left the school you attended last year?

- I'm enrolled at another college or university
- I'm working full time
- I'm looking for a job
- I'm recently married
- I'm in the service

5. If you are working or looking for a job, were the courses you took related to your employment?

- The courses were directly related to my occupation
- The courses may be helpful in my job, but they weren't directly related
- There is no relationship between my courses and my employment

6. As far as you know, were you eligible for financial aid in 1969-70?  YES  NO

7. Did you receive financial aid during 1969-70?  YES  NO

8. How would you estimate your family's income?

- I don't know
- Relatively low income (under \$4500)
- Moderately low income (\$4500 to \$7500)
- Moderate income (\$7500 to \$10,500)
- Above average income (\$10,500 to \$13,500)
- Relatively high income (above \$13,500)

9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70.

- | MOST VALUABLE            | LEAST VALUABLE           |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | helping me to prepare for a job                     |
| <input type="checkbox"/> | <input type="checkbox"/> | helping me to prepare for another school (transfer) |
| <input type="checkbox"/> | <input type="checkbox"/> | helping me decide what job to train for             |
| <input type="checkbox"/> | <input type="checkbox"/> | helping me get myself together personally           |
| <input type="checkbox"/> | <input type="checkbox"/> | helping me make up some academic skills             |
| <input type="checkbox"/> | <input type="checkbox"/> | helping me find a job through placement service     |

# NORCAL - CCHE PROJECT

This questionnaire is being mailed to all students who were enrolled in selected California community colleges during the 1969-70 academic year, completed the fall 1970 term but failed to return for the spring semester or the winter quarter of the 1970-71 academic year. The only way we can evaluate our program and services is by asking you these questions. Every response is important, so please help us to improve our colleges by taking the next few minutes to respond to these important questions. Indicate your answers by making an "X" in the box to the left of the statements that apply. Thank you for your help.

NAME \_\_\_\_\_  MALE  FEMALE

LAST NAME                      FIRST NAME                      MIDDLE INITIAL

[ ][ ][ ] - [ ][ ][ ] - [ ][ ][ ][ ]

SOCIAL SECURITY NO.

RACIAL OR ETHNIC GROUP (optional)  CAUCASIAN  CAUCASIAN, SPANISH SURNAME (CHICANO)  BLACK (AFRO-AMERICAN)  AMERICAN INDIAN  ORIENTAL  OTHER

3. I did not re-enroll in the community college for the following reason(s). Several may apply.

I completed all the courses I intended to take

I completed a certificate program

I transferred to another college

I decided to take a job

I got married

I enlisted or was drafted into the service

I had financial problems

I had transportation problems

I couldn't get the courses I wanted at that school

I just wasn't motivated by my courses

Frankly, I left because my grades were pretty low

4. What are you doing now that you have left the school you attended last year?

I'm enrolled at another college or university

I'm working full time

I'm looking for a job

I'm recently married

I'm in the service

5. If you are working or looking for a job, were the courses you took related to your employment?

The courses were directly related to my occupation

The courses may be helpful in my job, but they weren't directly related

There is no relationship between my courses and my employment

6. As far as you know, were you eligible for financial aid in 1969-70?  YES  NO

7. Did you receive financial aid during 1969-70?  YES  NO

8. How would you estimate your family's income?

I don't know

Relatively low income (under \$4500)

Moderately low income (\$4500 to \$7500)

Moderate income (\$7500 to \$10,500)

Above average income (\$10,500 to \$13,500)

Relatively high income (above \$13,500)

9. Please indicate which of the following were the most valuable and least valuable areas of your experience at the community college in 1969-70.

MOST VALUABLE	LEAST VALUABLE	
<input type="checkbox"/>	<input type="checkbox"/>	helping me to prepare for a job
<input type="checkbox"/>	<input type="checkbox"/>	helping me to prepare for another school (transfer)
<input type="checkbox"/>	<input type="checkbox"/>	helping me decide what job to train for
<input type="checkbox"/>	<input type="checkbox"/>	helping me get myself together personally
<input type="checkbox"/>	<input type="checkbox"/>	helping me make up some academic skills
<input type="checkbox"/>	<input type="checkbox"/>	helping me find a job through placement service

10. Using the major codes listed on reverse side, list the number that corresponds to your major at the time you left the college after the fall term, 1970.

[ ][ ][ ]

MAJOR

# NORCAL - CCHE PROJECT

Please select your major from this list and enter the code number of your major in the appropriate blanks.

Majors listed represent Associate in Arts or Associate in Science Degree programs (terminal or transfer). In these areas the College offers a sufficient number of courses in the specific field to permit completion of the twenty-unit minimum degree requirement for the major.

If you are planning to transfer to a four-year college in any of the following-listed areas of study, your degree will be Associate in Arts with a major in Liberal Arts. Completion of the general education courses required by the four-year college and 15 courses offered in the area of study will usually meet the Liberal Arts major requirement.

900 Apprenticeship - this code number should be used for all apprenticeship majors in any field. Do not use the code number of the specific trade area.

515 LIBERAL ARTS NON-TRANSFER (undecided or unlisted major)

201 Accounting  
801 Aeronautics  
102 Agribusiness

302 Architectural Drafting  
520 Art

801 Automotive Mechanics  
807 Body and Fender  
808 Building Construction Technology

205 Business Administration  
208 Business Data Processing  
204 Business, General  
809 Carpentry  
203 Clerical

207 Court Reporting  
814 Diesel Mechanics  
816 Electrician  
817 Electronics Technician  
301 Engineering

883 Fire Science (Evening only)  
560 Home Economics  
561 Home Economics/Child Development  
899 Industrial Arts Ed  
823 Industrial Drafting

461 Inhalation Therapy  
209 Insurance  
535 Journalism  
210 Legal Secretary  
829 Machinist

211 Marketing  
620 Mathematics  
830 Mechanical Technology  
212 Medical Assistant Secretary  
224 Medical Receptionist (1 yr. non-degree course)

462 Medical Records Technology  
213 Medical Secretary  
831 Mill Cabinet Maker  
580 Music  
452 Nursing, RN-AA Degree Program

453 Nursing, Vocational-AS Degree Program  
468 preNursing, Licensed Vocational  
214 Office Administration  
216 Office Machines  
888 Police Science

217 Public Administration  
542 Radio and Television Repairman  
219 Real Estate  
220 Receptionist (One yr. non-degree program)  
430 Recreational Leadership

833 Reprographics  
221 Secretarial Science  
834 Sheet Metal Worker  
741 Social Science  
222 Stenography (One yr. non-degree course)

591 Teacher Aide  
223 Technical Secretary  
886 Transportation  
837 Welding  
457 X-Ray Technology

510 LIBERAL ARTS TRANSFER (undecided or unlisted major)

101 Agriculture, General  
710 Anthropology  
681 preArchitecture  
631 Astronomy

610 Biological Science  
611 Botany  
632 Chemistry  
770 Criminology  
652 preDentistry

720 Economics  
530 English Literature  
603 preForeign Study  
552 French  
612 Game Management

730 Geography  
640 Geology-Earth Science  
553 German  
459 Health Education  
740 History-Political Science

827 Industrial Technology  
786 preLaw  
620 Mathematics  
455 Medical Laboratory Technology  
684 preMedicine

451 preNursing, Registered  
614 Oceanography  
685 preOptometry  
686 prePharmacy  
570 Philosophy

420 Physical Education  
630 Physical Science  
633 Physics  
750 Psychology  
554 Russian

799 Social Welfare  
760 Sociology  
551 Spanish  
543 Speech  
590 preTeaching, Elementary or Secondary

787 preTheology  
689 preVeterinary  
613 Zoology  
010 Evening Courses - Transfer  
015 Evening Courses - Non-Transfer  
999 Non-Credit Courses

# NORCAL CO-OPERATIVE RESEARCH PROJECT

NAME _____										LAST NAME _____										FIRST NAME _____										MIDDLE INITIAL _____									
COLLEGE USE - DO NOT MARK THIS AREA																				2. SOCIAL SECURITY NUMBER																			
0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9														
0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9														
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TEST USED										ACT					SAT					CO-OP					SCAT					OTHER									
COLLEGE CODE:																																							
0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9														
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0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9					0 1 2 3 4					5 6 7 8 9														
WHAT IS YOUR RACE?										CAUCASIAN					CAUCASIAN (SPANISH SURNAME)					BLACK					ORIENTAL					OTHER									
SEX										MALE					FEMALE					6. IF EMPLOYED, WILL YOU KEEP YOUR JOB WHILE IN COLLEGE?					YES					NO					NOT EMPLOYED				
WHAT IS YOUR MARITAL STATUS?										SINGLE					MARRIED					7. IS YOUR JOB RELATED TO YOUR COLLEGE MAJOR?					YES					NO					NOT EMPLOYED				
IN THE HOME WHERE YOU GREW UP, WHICH OF THE FOLLOWING BEST DESCRIBES THE JOB OF THE HEAD OF THE FAMILY?										UNEMPLOYED					UNSKILLED (NO FORMAL TRAINING)					SEMI-SKILLED (SOME FORMAL TRAINING PREFERRED)					SKILLED (SOME FORMAL TRAINING REQUIRED)														
DOES YOUR MOTHER HAVE A JOB OUTSIDE THE HOME?										YES, FULL TIME					YES, PART TIME					NO																			
HOW FAR AWAY FROM COLLEGE DO YOU LIVE?										1-5 MILES					6-10 MILES					11-15 MILES					16-20 MILES					OVER 20 MILES									
HOW DO YOU GET TO THE CAMPUS?										OWN CAR					CAR POOL					PUBLIC TRANS.					SCHOOL BUS					OTHER									
HOW LONG DOES IT TAKE YOU TO GET TO CAMPUS?										10 MIN. OR LESS					10-30 MINUTES					30-45 MINUTES					45-90 MINUTES					OVER 90 MINUTES									
WHAT IS YOUR REASON FOR COMING TO COLLEGE? (MARK ONE CHOICE ONLY)																																							
I HAVEN'T REALLY DECIDED YET					TO GET A JUNIOR COLLEGE DEGREE ONLY																																		
JUST TO TAKE INTERESTING COURSES					TO GET A JUNIOR COLLEGE DEGREE AND COMPLETE A VOCATIONAL/TECHNICAL PROGRAM																																		
TO COMPLETE ONE OF THE TECHNICAL/VOCATIONAL COURSES					TO PREPARE FOR TRANSFER TO ANOTHER INSTITUTION WITH OR WITHOUT AN A.A. DEGREE																																		
SOMETIMES PEOPLE ARE UNABLE TO COMPLETE COLLEGE, EVEN THOUGH THEY PLAN TO. IF YOU ARE UNABLE TO FINISH WHAT DO YOU THINK WILL BE THE LIKELIEST OBSTACLE?										ACADEMIC					FINANCIAL					MARRIAGE																			
WE SOMETIMES TURN TO OTHERS FOR ADVICE WHEN WE ARE MAKING PLANS. IF YOU WERE MAKING AN IMPORTANT DECISION NOW, HOW LIKELY IS IT THAT YOU WOULD TURN TO EACH OF THE FOLLOWING:										NOT VERY LIKELY					MAYBE					LIKELY					VERY LIKELY														
NO ONE																																							
FATHER																																							
MOTHER																																							
TEACHER																																							
COUNSELOR																																							
BROTHER/SISTER																																							
FRIENDS																																							
OTHER																																							
WHICH OF THE FOLLOWING PEOPLE WOULD YOU RELY ON MOST FOR ADVICE ABOUT SCHOOL OR JOB PLANS?										NO ONE					FATHER					MOTHER					TEACHER														
HOW IMPORTANT IS IT TO THE FOLLOWING PEOPLE THAT YOU GO TO COLLEGE?										NOT VERY IMPT.					SOMEWHAT IMPT.					QUITE IMPT.					EXTREMELY IMPT.														
FATHER																																							
MOTHER																																							
OTHER																																							
HOW IMPORTANT IS COLLEGE TO YOU PERSONALLY?										NOT VERY IMPT.					SOMEWHAT IMPT.					QUITE IMPT.					EXTREMELY IMPT.														
WHAT IS YOUR MAJOR?										0 1 2 3 4					5 6 7 8 9																								

(USE THE LIST OF MAJOR CODES ON THE REVERSE SIDE OF THIS PAGE)



# NORCAL CO-OPERATIVE RESEARCH PROJECT

## INSTRUCTIONS

This questionnaire is being given to entering freshman students in 22 colleges throughout Northern California as a part of a cooperative research project which has been in progress for one year. The questions on the reverse side of this page should take no more than five or six minutes of your time. Please answer every question to the best of your knowledge. If you do not wish to answer a question, skip it and go on to the next one.

We appreciate your help. The results of this study will be used to develop new programs on your campus, and we hope to provide as much information to each college as possible from your responses.

Thank you for taking this extra few minutes of your time.

### ----- DIRECTIONS FOR ANSWERING QUESTIONS -----

Please make heavy marks to indicate your responses to the questions on the reverse side of this page. Read each question carefully, and make the appropriate response in each case: some questions may ask for more than one response.

For marking social security number and college major code, use the form illustrated below. List the numbers down the page, and then mark the spaces corresponding to the numbers. For example, if we were asking for your birthdate, the response would be:

#### DATE OF BIRTH

Show month, day, year in numbers (Always precede unit numbers with zero, 01, 02, 03, etc.)

Example: Sept. 1, 1949 would  
be written as follows:  
09 01 49 and marked as shown:

0									
9									
0									
1									
4									
9									

Please select your major from this list and enter the code number of your major in the appropriate blanks.

Majors listed represent Associate in Arts or Associate in Science Degree programs (terminal or transfer). In these areas the College offers a sufficient number of courses in the specific field to permit completion of the twenty-unit minimum degree requirement for the major.

If you are planning to transfer to a four-year college in any of the following-listed areas of study, your degree will be Associate in Arts with a major in Liberal Arts. Completion of (a) general education courses required by the four-year college and (b) courses offered in the area of study will usually meet the Liberal Arts major requirement.

- 900 Apprenticeship - this code number should be used for all apprenticeship majors in any field. Do not use the code number of the specific trade area.
- 515 LIBERAL ARTS NON-TRANSFER (undecided or unlisted major)
- 201 Accounting
- 801 Aeronautics
- 192 Agribusiness
- 302 Architectural Drafting
- 520 Art
- 805 Automotive Mechanics
- 807 Body and Fender
- 808 Building Construction Technology
- 205 Business Administration
- 208 Business Data Processing
- 204 Business, General
- 809 Carpentry
- 203 Clerical
- 207 Court Reporting
- 814 Diesel Mechanics
- 816 Electrician
- 817 Electronics Technician
- 301 Engineering
- 883 Fire Science (Evening only)
- 560 Home Economics
- 561 Home Economics/Child Development
- 899 Industrial Arts Ed
- 823 Industrial Drafting
- 461 Inhalation Therapy
- 209 Insurance
- 535 Journalism
- 210 Legal Secretary
- 829 Machinist
- 211 Marketing
- 620 Mathematics
- 770 Mechanical Technology
- Medical Assistant Secretary
- Medical Receptionist (1 yr. non-degree course)

- 462 Medical Records Technology
- 213 Medical Secretary
- 831 Mill Cabinet Maker
- 580 Music
- 452 Nursing, RN-AA Degree Program
- 453 Nursing, Vocational-AS Degree Program
- 468 preNursing, Licensed Vocational
- 214 Office Administration
- 216 Office Machines
- 888 Police Science
- 217 Public Administration
- 542 Radio and Television Repairman
- 219 Real Estate
- 220 Receptionist (One yr. non-degree program)
- 430 Recreational Leadership
- 833 Reprographics
- 221 Secretarial Science
- 834 Sheet Metal Worker
- 741 Social Science
- 222 Stenography (One yr. non-degree course)
- 591 Teacher Aide
- 223 Technical Secretary
- 886 Transportation
- 837 Welding
- 457 X-Ray Technology
- 510 LIBERAL ARTS TRANSFER (undecided or unlisted major)
- 101 Agriculture, General
- 710 Anthropology
- 681 preArchitecture
- 631 Astronomy
- 610 Biological Science
- 611 Botany
- 632 Chemistry
- 770 Criminology
- 682 preDentistry

- 720 Economics
- 530 English-Literature
- 683 preForestry
- 552 French
- 612 Game Management
- 730 Geography
- 640 Geology-Earth Science
- 553 German
- 459 Health Education
- 740 History-Political Science
- 827 Industrial Technology
- 786 preLaw
- 620 Mathematics
- 455 Medical Laboratory Technology
- 684 preMedicine
- 451 preNursing, Registered
- 614 Oceanography
- 685 preOptometry
- 686 prePharmacy
- 570 Philosophy
- 420 Physical Education
- 630 Physical Science
- 633 Physics
- 750 Psychology
- 554 Russian
- 799 Social Welfare
- 760 Sociology
- 551 Spanish
- 543 Speech
- 590 preTeaching, Elementary or Secondary
- 787 preTheology
- 689 preVeterinary
- 613 Zoology
- 010 Evening Courses - Transfer
- 015 Evening Courses - Non-Transfer
- 999 Non-Credit Courses

## BIBLIOGRAPHY

- Carnegie Commission on Higher Education. The Open-Door Colleges, McGraw-Hill Book Company, New York, June, 1970.
- Cross, K. Patricia. "Access and Accommodation in Higher Education: Developing Lifelong Learning Models," The Research Reporter, Volume VI, Number 2, 1971, Center for Research and Development in Higher Education, University of California, Berkeley, p. 8.
- Greene, Caroline and Donald L. Kester. "What Special Problems Do Black Community College Students Have? A research project at one community college finds some of the answers." In ERIC, number ED 047 690.
- Guenther, William C. Concepts of Statistical Inference, McGraw-Hill Book Co., New York, 1965
- Kester, Donald L. "Nor Cal: A Review of an Impressive Achievement." This is the text of a speech at the 1970 Annual Conference of the California Junior College Association. De Anza College, November 1970. ERIC No. ED 044 111.
- Kester, Donald L. "The Lesson from the Three Year Nor Cal Attrition Study: Many of the Potential Dropouts Can Be Helped." (Napa College, Nor Cal Project: Phase III Final Report, November 1971. Mimeo. Being processed into ERIC.
- MacMillan, Thomas F. "Nor Cal Project: Phase I Final Report," 1969. In ERIC, No. 031 230.
- \_\_\_\_\_. "Nor Cal Research Group: A Follow-Up of Students Who Discontinued Enrollment," Coordinating Council of Higher Education, June 1970.
- \_\_\_\_\_. "Nor Cal: The Key Is Cooperation," Junior College Journal, Vol. 40, No. 8, May 1970, pp. 28-31.
- \_\_\_\_\_. "Nor Cal Project: Phase II Final Report," (Santa Barbara City College, June, 1970) ERIC No. ED 039 879.
- Marascuilo, Leonard A. Statistical Methods for Behavioral Science Research, McGraw-Hill Company, New York, 1971.
- Newman, Frank, et al. Report on Higher Education, United States Department of Health, Education and Welfare, March 1971.



Tillery, D., C. Collins, L. Crcuchett, R. Ontiveros, and R. Tealer. "Oakland Inner-City Project of the Peralta Colleges: An Interim Appraisal for the U. S. Office of Education," 1969.

\_\_\_\_\_ and Leland L. Medsker. Breaking the Access Barriers. Sponsored by the Carnegie Commission on Higher Education, McGraw-Hill Book Company, New York, 1971.

WICHE. Student Flow Models, A Review and Conceptualization - Preliminary Review Edition, Technical Report 25. National Center for Higher Education Management Systems at WICHE.