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ABSTRACT

This research paper investigates whether or not students placed on academic probation react appropriately to Burton R. Clark's "cooling out" process--a process designed to encourage students to match their levels of aspiration with their abilities and interests--by changing to an alternate major. Using a sample of 1000 Cerritos College (California) students, the following results are noted: (1) students on probation and those doing passing work showed no significant differences in frequency of major change; (2) only one-third of the students initially selecting a transfer major changed to a terminal major after being placed on probation; (3) almost as many probationary terminal and transfer students changed to a more difficult major as selected an easier one, with the majority failing to change majors at all; and (4) the proportion of students seeking terminal majors declined over time. This reluctance of students to accept more realistic goals is seen as a major cause of high attrition rates and failures to earn Associate of Arts and Vocational degrees in the junior colleges. Probable causes of this reaction, according to existing research, include family and social pressures, the student's preconceived association of certain levels of prestige with different majors, and ineffective remedial instruction and guidance programs. [Because of marginal reproducibility of original, this document is not available in hard copy.] (JO)

Graduate School of Education

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An Investigation of the "Cooling Out" Process in the Junior College as Indicated by Changes of Major.

Submitted to

Dr. James W. Trent

In Partial Fulfillment of the

Requirements for Education 259-A:

Social Psychological Research in Higher Education

by

Robert J. Fitch

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I. The Open Door: Equal Opportunity for Everyone

There are three factors in American society that have led to the recent fantastic growth of community colleges in this country. One is our belief that education is important for a democratic society. A second is our belief that in a democracy there should be equal opportunity for all, irrespective of their status at birth. Third is the belief that education is the primary means of "getting ahead".

The President's Commission on Higher Education (1948) re-emphasized the importance of education in a democracy by stating:

> Education is by far the biggest and most hopeful of the nation's enterprises.... Education is the foundation of democratic liberties, without an educated citizenry alert to preserve and extend freedom, it would not long endure.

Our belief in equal opportunity for all has produced our existing pattern of free education through high-school. Historically our concern for equal educational opportunity beyond high-school education dates back to the establishment of the land grant colleges by the Morrill Land Grant Act in 1862. In recent years there has been increasing pressure on the part of society to further democratize higher education. This pressure was based on the assumption that the doors of higher education should be open to all individuals who could profit from the experience, and that each individual should be able to progress as far as his abilities and interests would permit. Six years ago the Educational Policies Commission (1963) urged that all American youths be provided with at least two years of education beyond high school. As noted by Gleazer (1968) the rationale for opening the doors of higher education was this:

> In a democratic nation which holds that any citizen can become President, or chairman of the board of General Motors,... or can achieve greater status than his father, education is the means. Thus educational opportunity is more than a priviledge; it is a citizen's right. And if the great variety of people who exercise this right are to benefit, then a broad range of educational experiences is demanded.... By this reasoning, diversification of educational opportunity is urgently required to match a multitude of individual needs. The community college emerged to meet needs that other institutions should not or would not meet. (p.14)

Specifically, in California, this means that the community college must accept any high-school graduate or any person over 18 years of age who can profit by the instructions offered.

As noted by Roueche (1968) concomitant with belief in the open door is the belief that colleges exist to serve the people (p.6). The college "belongs" to the community that supports it and it must develop the types of courses and curricular offerings that the community needs or desires. The result is a highly diversified educational program designed to meet the needs of students who differ greatly in terms of their academic ability, interests, and goals. As a result of the above, the demands of society, the community college has been forced to become a multi-purpose institution. As noted by Thornton (1966) the community college has followed certain basic principles in its attempt to fulfill its designated role in higher education. These principles are:

> (1) to welcome all citizens who desire education; (2) to develop a variety of programs to meet the students' needs; (3) to provide guidance services to assist the student to make an appropriate choice from the various programs available; (4) to provide excellent teaching (which is necessary because of the problems and diversity of the students). (p.42)

Thornton states that, "If the college has carried out its part as indicated in these four principles, the student has no excuse for inadequate achievement. The ideal community college guarantees the student that he will be admitted to an area in which he has an interest and the ability to succeed." (p.42)

Clark (1960a) makes a similar observation about the "ideal" junior college. He states the following:

> The junior college may be viewed as a place where all high school graduates have the opportunity to explore possible careers and find the type of education appropriate to their individual ability; in short, as a place where everyone is admitted and everyone succeeds. (p.576)

However, there is evidence that the community colleges are not achieving their objective of "success for every student". This evidence indicates that the "open door" may, in fact, be a "revolving door". For example, a report by the Joint Commission on Higher Education in California (1968) states:

> For the junior colleges, in part because of their lower requirements and the fact that many students enroll for curricula which takes only one year to complete, the gross attrition rates between the freshman and sophomore years are more striking. The junior colleges have experienced larger declines in already low persistence rates. The sophomore/freshman ratios have declined 37 percent from .570 to .360 for full-time enrollments. If these declining persistence rates were complemented by increasing rates of transfers from junior colleges to senior colleges, there would be far less significance. This is not the case. The total number of transfers from junior colleges as a percentage of junior college enrollments has been decreasing over a period where the ratio of vocational to academic students in the junior colleges has been quite stable. (p.23)

Several other studies have noted the high attrition rates in junior colleges. Trent and Medsker (1967) reported that only 11 percent of the students who attended a public junior college obtained a B.A. degree over a four year period. However, 22 percent were still enrolled in school. In a study of factors related to persistence of junior college students, Telford and Plant (1968) found that at the end of two years only 57.7 percent of the original group of freshmen had completed three or more semesters and 42.3 percent had completed only one or two semesters.

It should be noted, however, that high attrition rates per se do not necessarily prove that the community colleges are failing to achieve their objectives. As mentioned above, one of the main objectives of the community college is to provide students with alternatives to the normal four year transfer program. This means that in a successful community college many students will change their original educational and vocational objectives. In some cases the student will change his major to an area where he can successfully complete his training in one or two semesters. In other cases leaving school and going to work may be a more realistic choice for the student in terms of his interests and needs. It is also true that many students enter the community colleges with objectives that can be achieved in a few semesters. In cases such as these, both the college and the student have "succeeded".

The above "successful" changes notwithstanding, there is much evidence that indicates that most of the students who withdraw from the community college do not achieve their stated objectives. Medsker (1960)

reported that two-thirds of the junior college students stated they intended to transfer to a four year college, but only one-third actually did transfer. More recently Cross (1968) reported that between 70 and 75 percent of the junior college students stated they intended to obtain a bachelor's degree or higher. Unfortunately, Cross does not report data as to the number of students who actually do obtain a bachelor's degree or higher. Trent and Medsker (1967) reported that out of a sample of 1,104 students who entered a public junior college in 1959, only 11 percent had obtained a bachelor's degree by 1963; 22 percent were still enrolled in school; and 67 percent were no longer in school. However, as the authors note:

> ....attrition figures in general cannot categorically be regarded as a sign of student mortality. Although a number of high school seniors indicated that they did not intend to complete a four year college program, their withdrawal need not always be interpreted as failure to achieve educational goals. (p.97)

How many of these students actually "failed" and how many reached their objective is not known, but one cannot assume that the educational experience of students who failed to complete four years of school was a complete loss to either the student or society.

In other words, although the attrition rates in the community colleges are alarmingly high, one cannot evaluate how successful the community colleges are until it is determined how many of these withdrawals are actually "failures" and how many left school because they had achieved their objectives. Neither can one consider all dropouts a loss until it is determined how many profited by their experience in

school, nor can the number of students who transfer or earn an A.A. degree be used as a measure of the community colleges' effectiveness. Community colleges can only be evaluated in terms of how many of their students reach an objective that is appropriate in terms of the students' abilities and interests.

II. Statement of the Problem

One of the critical problems in higher education is to match the students' level of aspiration with his ability level. Most educators assume that the successful solution of this problem would reduce drop-out rates and make the college experience more meaningful for the student.

As noted by Clark (1960a) this is a problem for all institutions of higher education, but it is in the community college that one finds the greatest discrepancy between the student's academic ability and his level of aspiration. Admission to the community college through the open door offers hope to the less able student. However, he often soon encounters a set of standards that he cannot meet. Students who intended to transfer and find they cannot are termed "latent terminals" by Clark, and he estimates that approximately 50 percent of all the junior college students fall into this category.

Many authors have reported that junior college students are less academically able than their peers who attend four year colleges. In her recent review of the junior student, Cross (1968) noted that almost one-third of the junior college students lacked the courses normally required for college admission. She also reports (p.12) that on the SCAT-II junior college students did better than non-college bound high school graduates, but that they did not do as well as four year college freshmen. The results for 35,000 students were (figures represent percentages):

Test Score	Non-College	Junior College	Four Year College
Top Third	16	36	71
Middle Third	35	39	23
Lowest Third	49	25	6

Cohen and Brower (1969) noted that on the basis of high school grade point average over 80 percent of the 8,500 junior students in their study would not be eligible for a four year college in California. Seashore (1958) tested junior college freshmen with the College Qualification Test. He found that only 25 percent of the men and 20 percent of the women were above the median scores made by four year college freshmen. The mean score of the junior college students was near the 25th percentile of the four year college students' norm. Of particular concern to the community college is the large number of freshmen who have serious deficiencies in basic skills, i.e. language and mathematics. Bossone (1966) conducted a state-wide survey of 270,000 freshmen who entered California's public junior colleges in 1965. On the basis of test scores almost 70 percent failed to qualify for the transfer level English course. In a recent study (Fitch, 1969) the English Cooperative Test scores of 1,800 entering freshmen at Cerritos College were compared to the scores made by a national norm group of college freshmen. Eighty-four percent of the Cerritos students were below the median score of the norm group. The mean score for the Cerritos students was at the 22nd percentile on the national norms and only 20 percent of the students were able to qualify for the transfer level English course.

Roueche (1968) made an extensive review of problems of remedial education in the community college. He described the typical low ability student assigned to remedial classes as a student with the following characteristics:

1. Graduated from high school with a low C average or below (or dropped out).
2. Is severely deficient in basic skills, i.e. language and mathematics.
3. Has poor study habits (and probably a poor place to study at home).
4. Is weakly motivated, lacking home encouragement to continue in school.
5. Has unrealistic and poorly defined goals.
6. Represents homes with minimal cultural advantages and minimum standards of living.
7. Are the first of their family to attend college, hence have a minimum understanding of what college requires or what opportunities it offers. (pp.12-13)

In a discussion of the problems created by the open door policy, Cronbach (1968) noted that one of the results of society's demand for equal educational opportunity for all is that educators must now "instruct students from homes where there is no educational tradition and no preparation for responsible intellectual effort." (p.2) He further states that, "The older form of education designed to educate only those motivated to learn from printed symbols, ready to conform to authority, and prepared to work for distant rewards has no validity in a culture that wants and needs to educate everyone." (p.2)

Yet, in spite of their low academic aptitude, the majority of junior college students report that they intend to transfer to a four year school. The Office of the Chancellor of the California Community Colleges recently released a report showing the enrollment figures by curriculum fields in the California community colleges in the Fall of 1968.

In this report 352,940 students (out of a total of 568,146) had reported a major. Of those who had declared a major, 64.5 percent of the students had selected a transfer program and only 26.5 percent had declared a terminal major. The curriculum field that attracted the greatest number of full-time students was the Humanities area (including English, Speech, Philosophy, Art, Drama, Music, Journalism and Foreign Languages). Twenty-four point seven percent of the full-time students were enrolled in these majors. This is surprising not only because of the lower ability of the junior college student, but also because most of the research in this field indicates that the junior college student is more concerned with the practical, economical, and occupational values of education and is generally less intellectual (Cross, 1968). Cross reports (p.46) that 64 percent of the junior college students indicate they aspire to managerial or professional occupations. This level of aspiration is much higher than the actual occupation of the fathers of these students. Only 32 percent of the fathers are in managerial or professional occupations. Similar discrepancies between the students' level of aspiration and their fathers' occupations are found in a studies of freshmen in four year colleges (Cross, 1968; Beardslee and Dowd, 1962), however, because of the junior college students' low level of academic ability the probability of realizing these aspirations is much smaller.

Additional evidence that junior college students are less likely to choose a realistic major is found in a study by Anderson and Olsen (1965). They studied the occupational choices of two groups of high school seniors; one group that was planning on attending a four year

school and another that was planning to go to a junior college. They measured the students' vocational aptitude with the Flanagan Aptitude Classification Test (FACT) and used a Q-sort test to check the degree of congruence between the student's self-concept and his "ideal self". They found that the vocational choices of the students who were going to four year schools were significantly (.01 level) more realistic than were those made by students who were planning to attend a junior college. Only 25 percent of the four year college group choose an unrealistic or inappropriate occupation, but 66 percent of the two year college group had made an unrealistic choice. The degree of congruence between the student's self-concept and his "ideal self" was not found to be related to either the type of college he was planning to attend nor was it related to the appropriateness of his vocational choice.

In his survey of students enrolled in remedial English classes in California, Bossone (1966) found that 74 percent of those students planned to transfer to a four year school. Yet, in terms of performance, only 20 percent of these students later enrolled in college credit courses and 40 to 60 percent earned a grade of "D" or "F" in the remedial English class. As noted by Roueche (1968) the research on students enrolled in remedial courses,

> ...leads to the conclusion that either remedial students have unrealistic educational goals or that the programs in the community junior colleges are failing to remedy their educational difficulties. (pp.13-14)

The above research data indicates rather clearly that the junior college student is less academically capable than his peer in the four year college, and, in terms of his ability level, his goals are unrealistically high.

In her view of the research on the goals and aspirations of junior college students, Cross (1968) concludes, "that the aspirations of large numbers of students are destined to be frustrated" (p.45) and that much research is needed to find out more about the characteristics and problems of students who do not transfer. In the summary statement Cross states:

> We know almost nothing about those students with unrealistic aspirations. Many borderline students who enroll in transfer programs have almost no chance of completing four year college work and even less of embarking upon a professional career. What is involved in such unrealistic aspirations? Is it the prestige of the academic program that attracts them, or is it an attempt to avoid making a commitment to an occupational future during a period of great uncertainty? The desire for young people for help in planning their future is great. If we are to assist them, we need to obtain a deeper understanding of their knowledge about the various pathways open to them and we need more information about the factors that influence their decisions. (p.50)

III. The Cooling Out Process

Clark (1960a) states that the students' high level of aspiration is caused by the fact that democratic societies encourage high aspirations by perpetuating the belief that upward mobility is universally possible. We teach our children that anyone can do anything if they only try hard enough. We preach this "Horatio Alger" myth and ignore the fact that in reality many people have limited abilities and that the institutions employ a variety of screening procedures that limit the number of people who can reach the top levels. Therefore, according to Clark, democratic societies "need not only to motivate achievement but also to mollify those denied it in order to sustain motivation in the face of disappointment and to deflect resentment." (p.569) This conflict between culturally instilled goals and limited opportunity can be a major source of frustration unless society can ameliorate the frustrations and disapointments of those who fail.

Dealing with the frustration of failure is a major problem for those institutions of higher education that have yielded to public pressures and lowered admission standards. Within there institutions there is a great deal of concern that academic standards be maintained. This concern for quality education is expressed by academicians, students, governing boards and members of the business and professional community. If a college allows too many weak students to "slip through" then its academic reputation is damaged. Such schools find it difficult to attract able students and qualified faculty. It's graduates experience difficulty when they seek employment or apply for admission to graduate or professional schools.

As a result the institution employs a set of procedures and develops a structure that makes failure inevitable for the majority of the low-ability students. These methods have been called the "cooling out" process by Clark.

As noted by Clark, there are two basic methods of dealing with the low ability student. One is the "hard" reponse in which large numbers of students are flunked out. This is the approach typically used by state universities that are forced to lower their admission standards.

A second approach is termed the "soft" response. In the "soft" response the failure of the unpromising student is minimized. In place of dismissal, the institution used a variety of methods whose ultimate goal is to get the student to lower his level of aspiration and accept an alternative goal that has lower status in both the college and society in general.

In the state university this usually means the student is encouraged to accept an "easier" major. However, it is in the junior college that the cooling out process is most highly developed and most complicated. It is in the junior colleges that one finds the largest number of latest terminal students, and dealing with these students is one of the major problems the junior college has.

In handling the latent terminal, the junior colleges use a variety of methods, but the most typical pattern involves the following steps:

(a) The latent terminal first encounters a system of pre-entrance testing and counseling. Low test scores place him in remedial rather than transfer-level courses. The counselor points out to the student that his low scores and poor performance in high school indicates he may have "some difficulty" in achieving his

objective and he should choose his courses "carefully". However, at this point the pressure to change is gentle and his stated objective is rarely challenged openly.

(b) A second step is the "Orientation" course. In the orientation class the students are urged to realistically evaluate their goals. They are informed about the courses they must take to complete a certain major and the high academic standards that are required for success in their chosen field of study. He is given interest and aptitude tests and is asked to re-evaluate his goal in light of the results of the tacts.

Clark states that "the orientation class was considered a good place to 'talk tough' to explain in an impersonal way the facts of life for the over ambitious student". (1960a, p.573)

At Cerritos representatives from the various two year occupational areas are invited to speak to every orientation class. These speakers make a determined effort to point out that vocational programs are not really low status occupations, and that students that complete these programs get excellent jobs and earn high wages.

(c) As noted by Clark, up to this point the student can choose to ignore the pressures to change his major and continue to pursue his original objective. However, he encounters further deterrents in his classes. He finds the work is frequently too difficult for him and that he cannot "coast through" as he did in high school. He begins to receive low grades and is frequently forced to drop classes. Failure notices are sent to his counselor and again he encounters pressure to "reconsider his objectives".

(d) In his discussion of the methods used in the cooling out process, Clark notes that frequently the more subtle pressures of counseling, testing, and failure notices do not convince the student that his goals are unrealistic. Therefore, the student continues until he is placed on probation and is threatened with academic dismissal. Clark states that the purpose of probation is not "designed to get rid of the student....but to assist the student to seek an objective (major) at the level at which he can succeed". (1960a, p.574). However, he points out that probation status is a feature he terms as "objective denial". The record of poor performance is objective and impersonal. It cannot be denied and it therefore is designed as the "final blow" to lingering hopes of the most stubborn latent terminal. (1960a, p.574)

Clark states that there are several objectives involved in the cooling out process. One is to ease the pain of frustration and failure. This is accomplished by the use of ambiguous standards that conceal the behavior. The counselors also serve as a consoling agent by trying to make it easier for the student to accept an alternative career that has lower status.

However, the primary function of the cooling out process is to get the student to accept an alternative major that is consistent with his interests and abilities. In his study of San Jose City College, Clark noted that several facts indicated that the cooling out process may not be working effectively. One of the problems is getting students to accept a terminal major. Clark notes that over a four year period the number of A.A. degrees earned in terminal programs was small. Records from the placement office

also indicated that only a small number of occupationally trained students sought jobs through the placement office. High failure and attrition rates also indicated that students were not changing to majors where they could succeed. However, it should be noted that data of this sort is not conclusive proof that the cooling out process is completely unsuccessful. After all, not all terminal students earn an A.A. and many do not use the service of the placement office even though they do acquire occupational skills and find employment.

If the main objective of the cooling out process is to get the student to change to more realistic majors and the most potent means of forcing him to change is the use of probationary status, we would expect to find a predictable pattern of changes in the majors selected by students over a period of time.

Operationally we would predict the following types of changes if the cooling out process is successful:

1. Students on probation should change their major more frequently than students who are doing passing work.
2. Students who initially selected a transfer major and found themselves on probation should change to a terminal major.
3. Students who are on probation (both terminal and transfer) should lower their level of aspiration by changing to an easier major.
4. Over a period of time the proportion of students selecting a terminal major should increase.

Method

To test these hypotheses the initial major choices and subsequent changes of 1000 students from Cerritos College were examined. At Cerritos all full-time freshmen are required to take a orientation class. In the Fall of 1964 each student in the orientation classes were asked to indicate their major choice (along with other information) on a form prepared by the Counseling Department. This data sheet became part of the students' permanent file and for the next three years was sent to the counselor each time the student made a counseling appointment. Any changes in the students major during that three year period was recorded on the data sheet by the counselor. At the end of the three-year period a random sample of 1000 student records were selected for this study.

The counseling system at Cerritos College requires all students to obtain a counselor's approval for his academic program. Students who see their counselor are also allowed to register earlier than other students. Because of these requirements it is estimated that approximately 80 percent of the full-time students who intend to re-enroll see their counselor at least once during the prior semester.

Out of the original group of entering freshman approximately 10 percent dropped during the first semester and did not re-enroll. No information concerning changes of major was recorded for these students; therefore, they were not included in the sample selected for this study.

It should also be noted that some students will change their major without telling their counselor, so the actual number of major changes that occured is greater than the number reported here.

For the purposes of this study "probationary status" is defined as a student who had less than a 2.00 grade point average at the end of his first semester.

In terms of majors, Cerritos offers the students 109 choices.* Sixty-two of these are transfer majors and forty-seven are two year programs. The two year programs include 16 majors in Business (Accounting, Business Management, Data Processing, Secretarial, etc.), 16 programs in Industrial Technology (Auto Repair, Drafting, Electronics, Welding, etc.), 6 in Health Services (Nursing, Dental Assisting, etc.), 5 in Public and Personal Services (Police Science, Cosmetology, Airline Stewardess, etc.).

DEGREE OBJECTIVES AS INDICATED BY INITIAL CHOICE OF MAJOR

The degree objectives initially selected by the incoming freshmen are shown in Table I. These choices reflect the "typical" pattern for junior college populations. A large number of students are "undecided" (16.1%) and the majority total sample indicate that they intend to obtain a B.A. degree. In terms of initial choice only 54.7 percent selected a major that would lead to a B.A. degree or higher. However, the majority of the "undecided students who eventually declared a major selected a transfer program. Over the three year period of the study, 65 percent of the undecided students had selected a transfer program and the majority of the students who remained in the "undecided" group were enrolled in the transfer-type courses. Only 20 of the 161 "undecided students changed to a terminal major.

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* A complete list of all of the majors is included in the Appendix.

TABLE I.

INITIAL DEGREE OBJECTIVES OF INCOMING FRESHMEN

	UNDECIDED	A.A.	B.A.	TOTAL
NON-PROBATIONARY STUDENTS	109 (15%)	213 (29%)	412 (56%)	734 (100%)
PROBATIONARY STUDENTS	52 (19%)	79 (30%)	135 (51%)	266 (100%)
TOTAL SAMPLE	151 (16.1%)	292 (29.2%)	547 (54.7%)	1000 (100%)

ACADEMIC PERFORMANCE OF THE SAMPLE

At the end of the first semester 26.6 percent of the 1000 students were on academic probation. Proportionally, more of the "undecided" students ended up on probation. Thirty-two percent of the "undecided" students were on probation as compared to 25.5 percent of the students with a declared objective. The students who initially selected a B.A. program were academically more successful than were students who initially selected a terminal program. Only 24.7 percent of the transfer students ended up on probation, compared to 27.0 percent of the terminal students. Apparently the students who selected a terminal program find their program as difficult to pass (in terms of their ability) as students who select transfer programs.

In terms of performance, 87 percent of the original group of entering freshman re-enrolled the second semester, 60 percent enrolled were enrolled in fall of the second year, and 19 percent enrolled in the fall of the third year.

Major CHOICES: BEFORE and AFTER CHANGES.

Table II contains a summary of the changes in major made by the students during the study.

Over the three year period 337 students changed their major. A detailed analysis of the patterns of these major changes has not been completed as yet and will be reported in a later paper.

However, it should be noted that most of the 337 changes were between closely related subject areas.

For example, 57 of the 149 students who initially selected a two-year program in Business changed their major. However, 40 of the 57 changed from one terminal Business major to another. Only 17 of the 57 selected a non-terminal Business major and five of these changed to a transfer program in Business Administration.

Most of the more "radical" changes were made by the students who initially selected a transfer program in the sciences. Of the 12 students in Engineering who changed their major, only one remained in a transfer science program. Over 50 percent of the students in the pre-professional areas who changed their major selected a major in Social Science or Humanities.

As noted in Table II, the number of students selecting a particular major usually increased over the three year period. This is primarily due to the fact that a large percentage of "undecided" students changed to a declared major. The changes made by undecided students are primarily responsible for the large increases in Humanities, Social Sciences and Business Administration. Nearly 60 percent of the 99 undecided students that declared a major selected a major in these three areas.

The number of students enrolling in transfer science programs and in the two year programs in Applied Arts and Industrial Technology decreased over the three year period.

TABLE II

Number and Percent of Students in Various Major Areas Before and After Changes

	Number of Students Starting in that major	Number of Students in that major who changed	Percent of Students in that major who changed	Number of Students in that major following changes	PERCENT Change in that major following changes
I. UNDECIDED or UNDECLARED	161	99	62%	84	-52%
II. TRANSFER PROGRAMS					
1. Fine Arts (art, music, drama).....	38	7	18%	44	+16%
2. Humanities (Eng., Speech, Lang., Philos.)...	44	7	16%	69	+57%
3. Social Sciences (Hist., Polit. Sci., Anthro., Psy., Sociol., Econo., Geog., Pre-Law).....	106	34	32%	121	+14%
4. Science & Math (Bio., Phys. Sciences., Math)	59	25	42%	44	-25%
5. Agriculture·Forestry-Wild Life Management...	10	4	40%	9	-10%
6. Pre-Professional Majors (Pre-Med, Pre-Dentistry, Pre Vet, Pre-Pharmacy, Pre-Optometry).....	40	12	30%	41	+3%
7. Architecture.....	7	0	0	10	+43%
8. Engineering.....	56	12	21%	50	-11%
9. Business Administration.....	91	26	29%	108	+19%
10. Business Education (Teaching).....	9	3	33%	11	+18%
11. Home Economics.....	18	4	22%	20	+11%
12. Journalism.....	3	0	0	0	0
13. Police Science.....	5	0	0	9	+80%

TABLE II (con't)

	Number of Students Starting in that major	Number of Students in that major who changed	Percent of Students in that major who changed	Number of Students in that major following changes	PERCENT Change in that major following changes
15. Industrial Arts & Industrial Technology....	11	2	18%	18	+64%
SUB-TOTAL - TRANSFER PROGRAMS	547	146	26.7%	607	+11%
III. TWO-YEAR PROGRAMS					
1. Business (Accounting, Clerical-Secretarial, Data Processing, Management, Merchandizing, Real Estate, Insurance, etc.).....	149	57	32%	169	+13%
2. Applied Arts (Commercial Art - Music, Journalism, Drama).....	11	8	7%	6	-45%
3. Health Services (Nursing, Dental Assist., Medical Assist., Psychiatric Technician....	30	1	3%	34	+13%
4. Public-Personal Services (Home Economics, Cosmetology, Police Science, Airline Stewardess, Early Childhood Education, etc.).....	36	5	14%	41	+14%
5. Technology - (Architecture, Drafting, Electronics, Machine Tool, Welding, Auto Body Repair, Auto Mechanics, Industrial Supervision, Numerical Control, etc.).....	66	21	32%	59	-11%
SUB-TOTAL - TWO YEAR PROGRAMS	292	92	31.5%	309	+6%

Results

As noted previously, placing the student on academic probation is one of the most powerful pressures brought to bear to change his major to a more realistic level. Therefore, it was predicted that students on academic probation should change their major more frequently than do students who are doing passing work.

Table III shows the number of major changes made by probationary and non-probationary students over the three year period. Use of the Pearson x^2 revealed that there is no significant difference between the two groups in terms of the frequency of major changes ($x^2 = .307$, p .35).

TABLE III

FREQUENCY OF MAJOR CHANGES BY PROBATIONARY AND NON-PROBATIONARY STUDENTS

	Total Number	Number Changing	Percent Changing
Students on Probation (G.P.A. of 1.99 or less)	266	95	35.7%
Students Passing (G.P.A. of 2.00 or more)	734	242	33.0%
All Students	1000	337	33.7%

The cooling out process is primarily designed to induce the latent terminal student to lower his level of aspiration and to select a two-year non-transferable major. Therefore, it was predicted that a large percentage of the students who initially chose a transfer major and then found themselves on academic probation should change their major to a terminal program. Out of a sample of 1000 freshmen students 547 initially selected a transfer major. One hundred thirty five of these students were on academic proba-

tion at the end of the first semester. The patterns of major changes for these students is shown in Table IV. In spite of their probationary status, two-thirds of this group did not change their major at all, and over the three year period only 10.4 percent changed to a terminal program.

TABLE IV

MAJOR CHANGES OF PROBATIONARY STUDENTS
WHO INITIALLY SELECTED A TRANSFER MAJOR

Number Not Changing	=	88	(65.2%)
Number Changing to Other Transfer Major	=	28	(20.7%)
Number Changing to Terminal Program	=	14	(10.4%)
Number Changing to Undecided	=	5	(3.7%)
Total	=	135	

Obviously, moving from a transfer to a terminal program is only one type of change that might reflect a lowering of the student's level of aspiration. Many students who find themselves in academic difficulty change to an easier transfer program or to "undecided", both of which could be called "more realistic".

It should also be noted that the pressures of the cooling out process are not designed exclusively for the low ability transfer student. Two year programs differ greatly in terms of their level of difficulty and the types of abilities required. Therefore, many of the students who select terminal programs have also chosen a major that is unrealistic in terms of their abilities.

Thus, one would predict that if the cooling out process is successful a large number of both terminal and transfer students who find themselves on probation should change to an easier major.

In order to check this possibility the major changes of the 266 students on probation were examined to determine how many of the changes indicated a lowering or raising of the students' level of aspiration. Operationally a lowering of the level of aspiration was defined as one of the following types of changes:

1. transfer major to undecided
2. transfer major to terminal major
3. transfer major to "easier" transfer major
4. terminal major to undecided
5. terminal major to "easier" terminal major
6. change from undecided to terminal

A change indicating a rise in the level of aspiration was defined as a change to a "more difficult" major or as a shift from terminal to transfer. "No change" in level of aspiration was defined as a change to a major of equal difficulty or as a change from undecided to transfer.

In order to determine whether a change was to an "easier" or to a "more difficult" major a list of all the changes made by the 266 probationary students was presented to three members of the college staff. They were asked to rate the change as a move to "an easier major", a move to a "more difficult major", or a move to a major of "equal difficulty". A change was considered easier if two or more of the three judges agreed on this rating; likewise for the more difficult and equal difficulty ratings. (Actually, the judges were unanimous in all but two of the ratings.)

The results of this analysis are shown in Table V. Obviously students are very reluctant to lower their level of aspiration even when they are threatened with academic dismissal. Almost as many students raise their level of aspiration as lower it, and the majority resist any change at all.

One of the surprising results of this evaluation was the fact that six students changed from a terminal major to a transfer major (in spite of the fact they were failing in their terminal major) and only 14 students changed from transfer to terminal majors.

TABLE V

CHANGES IN LEVEL OF ASPIRATION AS REFLECTED BY MAJOR CHANGES IN 266 PROBATIONARY STUDENTS

Changes reflecting a lower level of aspiration	=	47	(17.7%)
Changes reflecting a higher level of aspiration	=	27	(10.1%)
Changes reflecting no change in level of aspiration	=	21	(7.9%)
Did not change major	=	171	(64.3%)
Total	=	266	100.0%

The last prediction concerning major changes stated that if the cooling out process was successful, then over a period of time the proportion of students selecting a terminal major should increase. This prediction takes into account the fact that a student may react to the pressures of the cooling out process even though he is not on academic probation.

Contrary to the prediction, the proportion of students selecting a terminal major actually declines instead of increasing. As shown in Table VI, the number of students who had selected a degree objective (either transfer or terminal) increased from 839 to 916. The remaining 84 students were undecided. The number of students in both terminal and transfer programs increased, but proportionally the percentage of students selecting a terminal major declined from 34.8 percent to 33.7 percent. The actual number of

students selecting a terminal program increased by only 17, while the number of students in transfer programs increased by 60.

TABLE VI

PROPORTION OF STUDENTS SELECTING TRANSFER AND TERMINAL MAJORS BEFORE AND AFTER CHANGES

		Initial Choice	Choice Following Change
Selected Transfer Program	N	547	607
	%	65.2%	66.3%
Selected Terminal Program	N	292	309
	%	34.8%	33.7%

Discussion

The results of the analysis of major changes indicates that students do not react to the pressures of the cooling out process by changing to a more realistic major. Apparently students would rather "fail than switch".

The students in this study were subjected to all of the pressures mentioned by Clark. In orientation classes they are told that most of our students do not transfer. They are told about the high failure rates and how many students are dismissed. Representatives from the various terminal programs speak to every orientation class about the advantages of occupationally oriented training. Nearly two-thirds of the students are placed in remedial English. Vocational Guidance testing is provided and counselors spend much of their time with students discussing vocational objectives and academic difficulties. In the Spring of 1968 24 percent (2,387) of the students at Cerritos College were on academic probation and 8.6 percent (854) of the students were dismissed for academic reasons at the end of the year. However, none of these factors seems to convince the student that his goals are unrealistic.

The student's failure to change his major does not necessarily mean that all of the methods used in the cooling out process are a complete failure. One of the purposes of the cooling out process is to reduce the feelings of inadequacy and frustration caused by failure. If that objective is actually accomplished then perhaps the effort exerted by the college staff is justified.

However, the primary objective of the cooling out process is to induce the less able student to lower his level of aspiration. The results of this study indicate rather clearly that this does not occur. Apparently the student's occupational and educational choices are extremely resistant to change,

no matter how unrealistic they may be.

There is considerable evidence that indicates that one of the primary reasons students are reluctant to change their majors is due to the fact that their choices are the result of a deeply ingrained pattern of interests, attitudes, and values. Since these personality traits are not necessarily related to the students' ability level many transfer oriented students do not change to majors that would be more realistic for them in terms of their ability because these alternative choices are not compatible with their particular pattern of interests.

Stewart (1966) found that students in trade and technical areas were significantly different from their transfer-oriented peers in several ways. Stewart used the Omnibus Personality scale and the Interest Assessment scale. He found that the groups differed in sources of life satisfaction (job, marriage, family, leisure, religion), risk-taking attitudes, impulse expression, esthetic-cism and abstraction. He concluded that vocationally oriented students are not flunk-outs from other programs, but rather are in these areas because their interests and personalities fit well here.

Nogle (1965) also found significant differences in the interest patterns of terminal and transfer students. On the Occupational Interest Inventory he found transfer men were high in personal-social interests and that they were low in mechnical interests. Terminal males showed just the reverse. Transfer females were also significantly higher in personal-social interests and terminal females were higher in business interests. Transfer men (compared to terminal men) were significantly higher in verbal interests and were lower in manipulative and computational skills. These interest patterns suggest that perhaps the most realistic alternative for the transfer-oriented student who flunks out may be employment in an area related to his personal-social interests and not the selection of terminal programs that

would train him for some mechanical or manipulative occupation.

In a study of major changes, Holland and Whitney (1968) also noted the reluctance of academically oriented students to change to occupationally oriented areas. They checked the patterns of major changes in 3,147 students in their freshman year. Engineering and Vocational-Technical areas gained almost no students from the liberal arts. The technical/trade majors gained 34 students during the year but only three of those came from social science or humanities. Twenty-nine of the 34 were previously majoring in engineering and physical education.

Brown (1968) studied major changes in science and humanities students and found significant differences between"persisters" and "changers" in both areas. Using the Omnibus Personality test he found that science majors who changed were more tolerant of ambiguity, more aware of their environment (Hi CO), were more tolerant of different religious views (Hi R1), more independent (Hi autonomy), more flexible (Hi CO), and more impulsive (Hi IE). Humanities changers differed from persisters in reverse direction on exactly the same scales (low CO, low R1, etc.). Both these differences and a number of other indices (number of friends in the department, outside activities, etc.) indicated that the changers did not fit the typical pattern found in those areas. The science majors who changed were more similar to liberal arts and humanities students than they were to students in science. The humanities changers were more rigid, less tolerant of ambiguity, etc. and therefore were more like the science majors. Though there were exceptions, in most cases the person changed because his personality did not fit the environment created by the students and professors in the department. The authors made a special point of the problems some students had with their professors because they did not have the stereotyped patterns of behavior expected of the students in the department.

Abe and Holland (1965) analyzed the responses of 12,432 college freshmen with the American College Survey to determine what factors in the survey characterized the students in various major fields of study. The American College Survey contains 1,004 items that measure a number of variables, including the students interests, potential for various kinds of achievement, attitudes, participation in extra-curricular activities, intellectual resources in the home, educational and economic aspirations, life goals, etc. One hundred and seventeen variables were examined to see to what degree they distinguished the students in thirteen major academic areas (physical sciences, agriculture, creative arts, etc.). A variable was assumed to characterize a major area when the students in that major averaged higher or lower on that variable than students in any other major. Unfortunately, the data used to characterize each of the 13 major groups was based on the responses of a single major in that group. The authors note that this assumption of homogeneity within groups is not always tenable and that in certain major groupings (and also in certain individual majors) there was a great deal of variance.

However, they did conclude that students, in general, select appropriate major fields in terms of their interests, values, and special talents, and that these major choices are dependent upon a great range of student characteristics including interests, values, self-concepts, compentences, achievements, etc.

Not surprisingly, some of the strongest differences were between the non-science liberal arts majors and the business and vocational-technical majors. The liberal arts students were found to be non-conforming, more interested in the arts, political and social problems, and other people.

The business and vocational technical groups were more conventional, showed less interest in the arts, and generally rated themselves as low in educational and intellectual compentences and less sensitive to other people.

Again the evidence indicates that the students in the various major areas are different in certain critical ways and that the alternatives for students who are being pressurred to change are limited. The characteristics of the non-science liberal arts majors listed by Abe and Holland indicates that it would be very difficult for many of these students to find an acceptable alternative major in the two-year occupational areas.

McCallum (1967) studied the differences between two groups of junior college males who earned their degrees in vocational-technical programs. One group of graduates had initially chosen a vocational major. The other group originally had selected a transfer major, but had changed to a vocational program at a later date (called the "deferred" group).

He found that the deferred students had higher SCAT scores and high-school grades, but the two groups did not differ significantly in terms of a number of social and economic factors (educational level of the parents, their fathers occupational level). In his analysis of factors that influenced the students in their choice of major, McCallum found several facts relevant to the cooling out process and the influence of junior college counseling. He found that 41% of the group that initially chose a vocational major had chosen the major they earned their degree in by the time they graduated from high school. Another 20 percent had changed their major while in college, but the change was within the same general vocational area. This means that 61 percent had made an early decision about their major field of study and earned a degree

in that area. At the time they graduated from high school only 8 percent of the deferred group had decided to major in the area in which they earned a degree and 61 percent made their choice while in college. In spite of the fact that the deferred group needed the most counseling, only 23 percent rated their junior college counselors as "very helpful", while 40 percent of the initial group gave their counselors a "very helpful' rating.

Though McCallum did not report the grade point averages of the deferred group prior to their change of major, he did note that in spite of their higher SCAT scores, the deferred group had lower grades than the initial group. This indicates they might have had some academic difficulties in their transfer programs and were cooled out by low grades or probationary status. However, McCallum notes that deferred group did not change to a vocational area because they lacked the ability to succeed in a transfer program because their SCAT scores were above the mean of students who transfer to four-year schools. He therefore concludes that the failure of the deferred group to complete their transfer major may have been the result of low motivation, interest patterns, financial problems, etc.

McCallum did find a significant difference between the type of vocational majors selected by the two groups. Deferred students were much more likely to choose majors related to engineering and avoid the lower status mechanical occupations.

McCallum did not compare the interests and attitudes of the deferred students with students who initially chose a transfer major and rejected the vocational areas. However, he did find that the deferred group did not differ significantly from the initial group in terms of the types of magazines they preferred, how they used their leisure time, what T.V. program they preferred, etc.

This indicates that the latent terminal who does change his major shows many similarities to the students in the vocational areas. Since the research cited above (Stewart, 1966; Nogle, 1965; Brown, 1968; Holland and Whitney, 1968) emphasizes the differences between students in academic and vocational areas one can only conclude that latent terminals who differ significantly from vocational students would find it difficult to change to a vocational program and would tend to remain in a transfer program until they fail.

Another factor that makes it difficult for students to change from a transfer to a terminal major is their high level of aspiration. As noted earlier in this paper, most junior college students state they intent to transfer in spite of their limited academic abilities. McCallum noted that even though the students in his sample had earned a degree in a two-year vocational area they still maintained a strong transfer bias. Over 70 percent of both groups stated that they planned to obtain a bachelors degree and over 12 percent stated they intended to earn a post-graduate degree. One of the most surprising facts reported by McCallum is that there was no significant difference between the initial and deferred groups in terms of the numbers who were planning on transferring to a four-year school.

Many studies have been made on the source of the college students high level of aspiration. The research indicates there are several important factors that determine whether the student will attend college and what occupational level he will aspire. One of the key factors influencing the student is the value system of his socio-economic class. The probability a student will attend college is much higher if he is a member of the middle class, upper-middle class or upper class (Kraus, 1968). As noted by Rodman (1968), the middle class emphasizes success and sees education as the primary means of career advancement. They emphasize conformity to authority, and encourage

their children to defer immediate gradification in favor of long term goals. The lower middle class (working class) also values education and it has a strong desire for their children to attend college, but they also hold some values that oppose college attendance. They tend to be anti-intellectual and value pragmatism, traditionalism and practicality. They also tend to emphasize family life over career advancement ("a job is just a job").

Though the junior college attracts most of its students from the middle classes it does attract more students from the lower middle class and the lower classes than do four year colleges. Kraus (1968) selected a sample of 387 youths from working class families and compared their educational plans with a group of middle class youths. He concluded that the major factors that separated lower class youths who planned to attend college from those who did not were the influences of the student's family and his peer group. He found three factors in the family that influence the lower-class student to attend college:

(1) Status discrepancy. If the student's mother is employed in a non-manual job or if she was employed prior to marriage then she was more likely to have encountered middle class values and; therefore, encourage college attendance. This was especially true if her occupation was higher than the father's.

Status discrepancy was particularly strong when the mother had "married down"; that is, she had attended college and the father did not. In these situations 76% of the children were planning on attending college.

Status discrepancy was also influential when the parents occupational level was lower than that of the grandparents. Apparently working class parents who have experienced downward mobility try to compensate by encourageing their children to aspire to higher goals.

(2) College experience of family members and friends. In general, close contact with people who have attended college (parents, siblings, or friends of the parents) approximately doubles the chance that the student will attend college himself.

(3) Father's occupational status. If the father's occupational status is high then the working class youth is more likely to attend college. This is especially true if the father has finished high school or had some college training himself.

Kraus found that in a number of ways the college-oriented working class youth resembled his middle-class counterpart. The similarities included such things as attitudes toward certain occupations, income expected in 10 years, interest in international affairs and politics, interest in classical music and number of books read. Because of these similarities and because of his higher level of aspiration, the college bound working class youth had more middle-class friends, had more friends who were planning on attending college, and was more likely to be involved extensively in extra-curricular activities. He was also more likely to be enrolled in a pre-dominately middle-class high school. Kraus notes that the fact that the college bound lower class youth shows these similarities in part because of his higher level of aspiration and family background. However, he did feel that the contact with college bound middle-class peers encouraged and reinforced the college aspirations of the working class youth.

The family and social influences are, of course, not the only factors in occupational selection. A critical factor in the choosing of a career is a person's self-concept. Herriott (1968) found that the student's level of aspiration was greatly influenced by his assessment of himself in terms of his intelligence, social ability, economic ability. Herriott notes that a particularly important factor in setting the level of aspiration is what "significant others" expect of the student. "Significant others" are also critical in influencing his self-concept ("If he thinks I'm smart enough to be a doctor, then maybe I am"). Herriott found that the student's assessment of his academic potential was influenced most by the opinions of his peer groups; but counselors, parents, and

friends a few years older were also important. One would assume that students who feel their academic potential is low would choose a major that is consistent with their evaluation of themselves. However, the research on the junior college student's evaluation of himself does not support this view.

Cross (1968) notes that only 29 percent of the junior college students rate themselves as "definitely able" to do college work, compared to 57 percent of the students who attend four year schools. She noted that this ratio is almost the same as the ratio of senior and junior college students in the top third of the Academic Ability Test distribution.

Astin, et al. (1967) found that as a group junior college students seem to have a fairly realistic view of their competencies and tend to have less self-confidence than students attending four year schools. Junior college students, as compared to students in four-year schools, rate themselves lower in terms of academic ability, drive to succeed, leadership ability, mathematical ability, intellectual self-confidence and writing ability. For example, only 37 percent of the junior college students rate themselves as above average in academic ability and only 19 percent feel they are above average in writing ability. These are fairly accurate estimates of their actual abilities as indicated by achievement tests. Since they also indicate they lack self-confidence, it is difficult to understand why the majority state they intend to transfer.

One possible explanation is that they do really expect to succeed. Sears (1940) found that children with a history of failure tend to set their goals either very low or very high. By setting their goals very high they would not feel degraded by failure. We feel bad about failure only when we actually expect to succeed. It is very possible that many junior college students do not really expect to succeed in a transfer program, so that when they fail they simply drop-out.

In a ACE survey of Cerritos students in the Fall of 1967 (unpublished data) only 21 percent of the freshmen indicated that their chances of transferring to another school were "very good". However, at the same time only 0.6 percent of the students stated that their chances of dropping out were "very good" and only 2.9 percent felt they would fail one or more courses.

This lack of congruence between the junior college student's assessment of himself and his vocational objectives is difficult to explain, but it does indicate that the students either are able to rationalize past failures, or are able to cognitively restructure the realities of their situation so that the dissonance can be reduced.

Some indication of how much junior college students deny the reality of their situation is seen in a study by Baird, Richards, and Shevel (1969) of graduates of two year colleges. They questioned over 4,000 students in 29 schools just prior to their graduation. Seventy-three percent of the students stated they were going to transfer to a 4 year school the next fall. Yet one-third of this group had not even applied for admission and one-fourth had a G.P.A. below a 2.0 and could not transfer.

Berry (1969) did a study of 162 students who were academically dismissed from a junior college or four-year school and re-entered the junior college for a "second chance". Only 27 percent of the group changed their major and most of these changes were to easier transfer programs. Fifty-five percent left by the end of the first semester and only 36 percent eventually were successful. Only 19 percent transferred to a four-year college.

Another major factor in the reluctance of transfer oriented students to change is the problem of the low status of many of the non-transfer programs. In many junior colleges have tried to emphasize the terminal function but without success. Clark (1960b) notes that San Jose City College started with a

Terminal emphasis but then soon became transfer oriented. Clark concluded that this happens because junior colleges are faced with "a large market of buyers" who shape the college by their choices and they prefer transfer programs (p.46).

Gleazer (1968) also noted the difficulty the junior colleges have in developing vocational programs. He states that "while the potential is there, the practice is less perfect. Some of the reasons are rooted in broad cultural attitudes....our society....emphasizes professional and managerial occupations .....There is no question that one of the major problems confronting occupational education is its comparative lack of prestige." (p.71-72) Gleazer feels that too often faculty, counselors, and parents equate "transfer"with "good student" and "terminal" with "poor student".

Vocational educators are very much aware of the status (problem) of the programs in vocational education. In a recent report to H.E.W. (1969) the National Advisory Council on Vocational Education stated that there was a need for increased effort in the area of vocational education and that failure to support vocational programs was due, in part, to the fact that blue-collar occupations are held in low-esteem. In their report they state:

> "At the heart of our problem is a national attitude that says vocational education is designed for somebody else's children. This attitude is shared by businessmen, labor leaders, administrators, teachers, parents, students. We are all guilty. We have promoted the idea that the only good education is an education capped by four years of college. This idea, transmitted by our values, our aspirations and our silent support, is snobbish, undemocratic and a revelation of why schools fail so many students.
>
> The attitude infects the Federal Government, which invests $14 in the nation's universities for every $1 it invests in the nation's vocational-education programs. It infects State governments, which invest far more in universities and colleges than they do for support of skill training for those whose initial preparation for the world of work precedes high-school graduation. It infects school districts, which concentrate on college-preparatory and general programs in reckless disregard of the fact that for

> 60 percent of our young people, high school is still the only transition of the world of work. It infects students, who make inappropriate choices because they are victims of the national yearning for educational prestige.
>
> In America, every child must be educated to his highest potential, and the heignt of the potential is not measured by the color of the collar. Plumbers, carpenters and electricians make more than many school superintendents and college presidents; only the arrogant will allow themselves to feel that one is more worthy than the other.
>
> We recommend that the Federal Government immediately exercise its leadership and allocate more of its funds to cure our country of our national sin of intellectual snobbery." (p.45-46)

However, our society's feelings about the value of college education and the prestige of white-collar occupations is not going to change because the federal government spends more money on vocational education. The belief in upward mobility through education is strong in our culture, and changing it will be very difficult.

Vocational programs in the community colleges in California have received substantial federal and state support. Yet, a recent report from the Bureau of California Community Colleges (1969) indicated that only 6.2 percent of the students in California Community Colleges had selected a major in the Trade/Technical areas.

The situation at Cerritos College is an excellent example of the problems mentioned by the Advisory Council. The college is located in the center of one of the largest industrial and manufacturing areas in the country. In the Cerritos district 46 percent of the labor force are employed in blue-collar occupations. The State average for urban areas is only 32 percent. 40 percent of the labor force in our district is in manufacturing, compared to an average of 25.3 percent for State urban areas (Fitch, 1964).

In order to meet the needs of the surrounding industries and the citizens of the community the Cerritos offers 16 programs in our Technology Division that

would normally be classified as "blue-collar". These programs include such subjects as electronics, drafting, welding, metallurgy, auto mechanics, etc. These programs have excellent physical facilities and are staffed with well-qualified instructors. We have two full-time counselors who specialize in the counseling of students in Technology and a full-time coordinator to develop and promote the programs. Intensive efforts are made to recruit students for these programs from both the local high-schools and surrounding industries.

Yet, in spite of all of this effort, only 6 percent of our full-time freshmen choose a major in Technology. Since 1967 the total hours of attendance at Cerritos has increased 18 percent. During this same period the hours of attendance for the technology courses has increased only 1 percent (Fitch, 1969). However, the problem of low status does not effect all terminal-occupational programs. Over-all, at Cerritos, we offer 46 2-year career-centered majors. In those areas that would be classified as "white-collar" or "professional" enrollments have increased substancially over the last few years. These programs include Nursing, Dental Assisting, Accounting and Data Processing. Enrollments in Data Processing have increased 133 percent in the last three years.

However, with the exception of Data Processing, the largest enrollment increases have occurred in the transfer programs. Enrollments in Drama have increased 65 percent, Art has increased 57 percent and English has increased 28 percent.

These changes could, of course, be do to a number of variables, but they do illustrate that even though the Cerritos District is located in an industrial area and its population contains a large percentage of "blue-collars" the students attending the college are rejecting the low-status "blue-collar" programs. I believe this unwillingness of students to select a "blue-collar" major illustrates the desire of the lower middle classes for their children to move up the social-occupational ladder.

Several studies have shown that college students are aware of the prestige levels of certain majors and the occupations associated with them. Zytowski (1966) did a study of the prestige value of majors and found that the rankings were influenced most by the students estimate of the persons ability level in the occupation related to that major.

Elocker and Anthony (1968) did a study of the influence of social status and prestige in the selection of a major in junior college students. Their sample consisted of 548 full-time freshmen selected from three junior colleges. In the questionaire used the students were asked to indicate their choices of vocation. The relative importance of prestige in the choice of an occupation was obtained by means of the students response to a five-point scale that ranged from "Highly important" to "of no importance". Social status was obtained by use of McGuires and Whites Index of Value Orientations.

The authors tested several hypothesis. They first predicted that students enrolled in transfer programs would stress prestige to a greater extent than terminal students in their choice of an occupation. The results confirmed this hypothesis. The differences between the groups was significant at the .01 level.

The vocational choices of students were then classified into five major groups, ranging from (1) top professionals and executives to (5) skilled tradesmen and service personnel. They then tested the hypothesis that the differences between the occupational groups with regard to the degree of prestige emphasis would be significant. The difference between the groups proved to be significant at the .01 level. The correlation between the two variables was .39. In general, students choosing upper level occupations emphasize prestige to a greater degree than those selecting lower level occupations. The third hypothesis tested was the prediction that there would be a difference between social status and the degree of prestige emphasis. This hypothesis was based on the assumption that

students from middle-class families would be more concerned with the prestige of their chosen vocation. This hypothesis was not confirmed.

Unfortunately, the authors did not check the students ability level or any other measure (such as high school achievement) that would indicate the students chances of success in a highly prestigious and more difficult major. However, they did conclude that in view of the high drop-out rates in junior colleges their findings indicate that students are placing too much emphasis on the prestige value of their chosen occupation and are therefore frequently making an unrealistic choice.

These studies all indicate that for a variety of reasons many students will find it difficult to change their major or occupational goal. However, there are studies that indicate that those students who do change are more successful. Ford and Urban (1966) reported that students who changed their majors two or three times were more likely to graduate than students who did not change. In McCullums (1967) study the data on grade point averages of the students who changed from a transfer to an occupational program suggested that their grades improved after the change.

In their study of transfer students, Knoell and Medsker (1965) reported that nearly one-fourth of the students in their sample stated that uncertainty about their career plans and major was one of the reasons they choose to attend a junior college. They also reported that over one-fourth of the students who had chosen a major before they started college had changed and that one-fourth were still not committed to a particular major when they finished their work at the junior college. These results strongly support the idea that one of the advantages of the junior college is that it is an institution that does not demand that the student make a firm committment and allows him to explore his interests and motivations before he chooses a definite goal.

The results of these studies indicate that there are many factors which cause students to resist changing their majors despite the pressures of the cooling out process.

The research indicates that students in different majors differ significantly in terms of personality traits, interest patterns, and levels of aspiration. This is especially true when one compares students in transfer and terminal areas. The literature also indicates that most students select majors that are compatible with their interest patterns. This means that many students select a major that is appropriate for them in terms of their interests and personality, but is inappropriate for them in terms of their ability. Because of their interest patterns many of these students have only a limited number of alternatives, and therefore they usually do not change. Even when faced with failing grades the students tend to deny the reality of their situation and persist in pursuing their original objective.

When students do change they are able to do so because their interests are compatible with the characteristics of the people who are generally in that major area.

The studies also indicate that changing from a transfer to a terminal-occupational major seems to be an especially difficult change for most students to make. Students in transfer programs have high levels of aspiration, upward mobility, and a preference for a "white-collar" occupation. These attitudes are basically due to the fact that the transfer student is more likely to be a member of the middle socio-economic class, but they are also strongly reinforced by members of his family and peer group. For many of these students, changing to a terminal-occupation program would be viewed as a "failure". It would mean lowering their level of aspiration, and entering an occupation that for them has low status and prestige. In many cases the student would find such a change incompatible with his self-concept and it would frequently mean a change of peer groups.

In addition to the above factors one could also hypothesize about a number of other reasons why many junior college students would not change their majors. Some freshmen who enter the junior college are very weakly motivated and drop out of school without any attempt to seek an alternative to their originally stated goal. Others state they are going to transfer, when in fact they are only in school temporarily because they cannot find a job or do not know what else to do. Others lack the maturity or emotional stability to realistically evaluate themselves or their situation. In other cases the students lack the ability to achieve success in almost any program in the curriculum, and after attempting a few remedial courses they simply drop out.

However, whatever the reasons, the evidence of this study supports the opinions of Medsker (1960) and Clark (1960a) that in reality the majority of the students in the junior college are simply "cooled out" and do not change to majors where they can succeed. This failure on the part of the students to accept a more realistic goal must be considered one of the main reasons why junior colleges have such high attrition rates and why so few students transfer, earn their A.A. degrees or obtain a Vocational Certificate.

To expect the junior college to succeed with every student is, of course, unrealistic from a practical point of view. However, there is evidence that in certain key areas the junior colleges are not doing everything they could in terms of their goal of "success for everyone".

As noted by several authors (Kintzer, 1967; Thornton, 1966) to achieve success with every student the "ideal" junior college must do three things:

1. Do an effective job of teaching. Good teaching is necessary in the junior college because many junior college students lack the academic background, study skills, etc., required for success in their field

of study. When faced with poor teaching the junior college student is much more likely to fail and be defeated than the highly motivated and capable university student.

2. Offer a comprehensive, diversified, and flexible educational program. If everyone is to succeed the college must offer the student enough choices and alternatives so that each student can find a program of study that is appropriate for him in terms of his abilities and interests.
3. Maintain a strong guidance program. By maintaining an effective counseling and guidance program the junior college can assist the student in selecting a program of study that is appropriate for him in terms of his abilities and interests.

Though the research in the area is sparse, teachers in the junior college are generally given favorable ratings (Knoell and Medsker, 1965). However, in the area of remedial education the effectiveness of the instructional program has been severely criticized (Bossone, 1966; Roueche, 1968). A large proportion of the latent terminal students are found in the remedial courses. As noted by Bossone, 74 percent of the students enrolled in remedial English classes in California were planning on transferring to a four-year school, yet between 40 to 60 percent earned a grade of D or F in the remedial course and only 20 percent later enrolled in college credit courses. Bossone found that 70 percent of the 270,000 freshmen who entered the California junior colleges in 1965 failed to qualify for the transfer level English course.

Roueche (1968) stated that one can only conclude that either these students have unrealistic goals or the remedial programs are failing to remedy the students deficiencies. In either the failure of the remedial programs "implies that the two-year colleges do not want the responsibility of assisting

students in making a realistic choice of educational goals as they enter the open door. It means the student is either 'cooled out' or 'dropped out'. Research indicates that the latter is more often the case." (Roueche,1968.p.24)

The diversity of the educational programs available to the students does not seem to be much of a factor in the failure of the junior college to meet the needs of the latent terminal students. Cerritos offers its students 47 two year programs and if a student cannot find the program he desires he is allowed to go to any other junior college that offers that program. Medsker (1960) stated that problems the junior college has with the students who do not transfer is not due to the failure to offer enough courses of an occupational nature, but with the value system of the students that causes them to select a transfer program.

The major responsibility for the failure of the junior colleges to solve the problems of the latent terminal students falls upon the shoulders of the counseling staff. Most junior colleges list counseling and vocational guidance as one of their basic objectives primarily because they recognize the fact that many of their students have unrealistic occupational goals. It is the task of the counselor to get the student to make a realistic evaluation of himself and to select a goal that is appropriate for him in terms of his abilities and interests. The counselor should help the student select a program in which he has a chance of success, provide the occupational information the student needs, and support and assist students who are having academic, financial or personal problems.

However, in spite of the importance of counseling, it seems to be the weakest part of the junior college program.

Medsker (1960) noted that in many institutions the counselors main role was to help the student arrange a program. The counselors frequently ignored

the needs of the students for occupational guidance and did not counsel students who had academic or personal problems. Medsker also felt that frequently the counseling staff was inadequately trained, not enough counselors were available, and there was little effort to do any research or evaluation of the guidance program.

Raines (1965) studied the guidance program in 123 junior colleges. Some of his findings were:

(a) Three-fourths of the colleges had inadequate student personnel programs

(b) Less than half provide adequate guidance and counseling

(c) Few offer students vocational information

(d) Staffing was generally inadequate both in terms of quality and quantity

Collins (1966) also emphasized the fact that counselors do not do an adequate job of providing vocational counseling and information.

Students also tend to give low ratings to the counseling programs in junior colleges. McCallum (1967) found that only 23 percent of the students who changed from a transfer terminal program rated their counselors as "very helpful" in making their vocational decision, while 35 percent rated their instructors as "very helpful".

Hannah (1969) studied attrition rates in thirteen junior colleges. He found that peers and parents ranked highest in the amount of help they gave the students, while counselors ranked a poor third. He found that college personnel was usually contacted after the student had made his decision to drop and that "most students did not find the counseling offered by the college particularly valuable or effective in resolving drop-out problems".

Knoell and Medsker (1965) found that students who transfer gave much less favorable ratings to counseling and academic advising than they did to the

instructional program in their junior colleges. Generally they felt the counseling was too infrequent and the sessions too short.

There is, however, some evidence that the effectiveness of counseling can be improved. Though the research is still limited, some studies have shown that a carefully planned program and extra hours of counseling can improve student performance.

Spector and Garneski (1966) compared the academic performance of an experimental group (who received a 6 to 8 hour pre-entrance counseling program) with a control group who did not receive the counseling. The counseled group earned significantly higher grades and at the end of one semester the drop-out rate of the non-counseled group was three times higher than the counseled group. The program of counseling emphasized the interpretation of testing information (both interest and achievement) and the selection of curricula that was compatible with the students measured interests, aptitudes and academic potential.

Lorberbaum (1968) reported that requiring extra hours of counseling (both academic and personnel) produced significant improvements in grades and retention in a group of students admitted on academic probation.

Gold (1969) reports that the use of students as para-professional counselors was able to produce significant improvement in both persistence rates and grade point averages in a group of disadvantaged students from poverty areas. The performance of the group of students was compared to other students in the program who refused counseling and to a similar group of students who entered the previous year. Persistence rates in the counseled group were 18 percent above those for students invited but not counseled and about 12 percent above those for the prior year comparison group.

These studies indicate that effective counseling can improve persistence and grade point averages of students. They do not indicate to what extent this

success was due to the fact that some students changed their major to a more realistic objective, but one could assume that such changes would account for at least part of the success reported.

It appears that the reason many students with transfer aspirations and low ability do not succeed is primarily due to the ineffectiveness of the remedial instruction and the guidance programs. Both of these areas in the junior college are specifically designed to help the latent terminal succeed, but in reality they are the cause of his failure. If the junior college is going to maintain its open door policy it must find more effective methods of helping the less able student. As noted by Clark (1960) handling the latent terminal student is one of the major tasks of the junior college. All institutions cool students out, but the junior college is unique in that it offers these students alternatives to failure. Though it is not listed as an objective in the college catalogue, changing transfer students to terminal students is one of the unique and most important tasks of the junior college.

According to Clark, junior college staffs need to understand the uniqueness of their role in higher education and accurately assess how well they are performing that function. If the junior college states that its goal is success for everyone then it must first accept the fact that at the present time the majority of these students are simply cooled out. Once that fact is accepted the junior colleges can begin to thoroughly evaluate the effectiveness of its educational and guidance program and find better ways to meet the needs of the latent terminals.

Recommendations

Dealing with the low ability student with unrealistically high levels of aspiration is a difficult problem. Success will not be achieved unless the junior college critically examines what it is now doing and develops more effective programs when the evidence indicates a change is needed.

The evidence indicates that a greater degree of success could be achieved if the following actions are taken:

1. Improve remedial programs. As noted by Roueche (1968) the traditional approaches to remedial education are a failure. Until better methods of remedial instruction are developed the "open door" will be a "revolving door" for large numbers of junior college students.
2. Improve the terminal-occupational program. Every junior college should continually examine and update its course offerings in the occupationally centered areas. This is necessary to insure that appropriate alternatives are available for both the terminal and latent terminal students. Special attention should be given to the development of sub-professional programs (like Data Processing) that have enough prestige value to attract students with high levels of aspiration. Colleges should also improve its lines of communication with the students so that they are aware of what occupational programs are available.
3. Improve the guidance program. In the area of guidance the junior colleges need to improve both the quality and quantity of its counseling staff. Students need more pre-entrance counseling and more vocational guidance & testing. Orientation courses are frequently inadequate. Extensive counseling (either group or individual) should be available or even required for low ability students, students on probation, and students who have adjustment problems that are interfering with their academic performance.

4. Improve the research program. Junior colleges need to do more research on student characteristics and how these factors relate to the students' performance. We need to know more about the students' interests, abilities, educational goals, his attitudes and values, etc. We need more information about the causes of failure and dropouts. Instructional programs and methods also need to be critically evaluated to determine what kinds of methods or programs are successful with particular types of students.

If the junior college really wants to succeed with every student it must also be willing to honestly evaluate itself and be willing to tolerate the confusion and uncertainty of change and experimentation. Both the staff and the administration must be willing to spend the time and the money to bring about needed changes.

Change is always difficult, but if the junior colleges are unwilling to change then the "open door" will remain a "revoling door" for many of their students.

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CERRITOS COLLEGE MAJOR CODE LIST
(Numerical)

NO.	MAJOR
000	Undecided
001	Accelerated
002	High School Diploma
009	Classes for Adults
100	Fine Arts & Communications
110	Art - A.A. Degree
115	Art - B.A. Degree
120	Music - A.A. Degree
125	Music - B.A. Degree
130	Theatre Arts - A.A. Degree
135	Theatre Arts - B.A. Degree
140	Journalism - A.A. Degree
145	Journalism - B.A. Degree
200	Business
204	Business - Secretary
205	Business - Legal Secretary
206	Business - Medical Secretary
207	Business - Technical Secretary
208	Business - Office Services
209	Business - Administrative Secretary
210	Business - Merchandising
211	Business - Library Assistant
215	Business Management
225	Business - Insurance
240	Business - Accounting
270	Business - Real Estate
280	Business - Data Proc. Operator
281	Business - Data Proc. Programmer
290	Business Education
400	Health, Phys. Ed., & Recreation
405	Physical Education (Women)
410	Physical Education (Men)
430	Recreation
500	Humanities
530	English
540	Speech
550	Foreign Language - Undecided
551	French
552	German
554	Spanish
570	Philosophy
600	Physical Science, Math, & Engr.
606	Architecture
619	Engineering
620	Mathematics
630	Physical Science
631	Chemistry
632	Geology
633	Physics
660	Pre-Optometry
670	Pre-Pharmacy
700	Social Science
710	Anthropology
720	Economics
730	Geography
740	History
750	Psychology
760	Sociology
761	Social Welfare
770	Political Science
771	Pre-Law
773	Business Administration
775	Police Science - A.A. Degree
776	Police Science - B.A. Degree
800	Technology
805	Aerospace Prod. Plan. - Electronics.
806	Aerospace Prod. Plan. - Gen'l Mfg.
810	Automotive Technology
815	Auto Body Repair
820	Drafting & Design Technology
825	Architectural Technology
830	Electronics Technician
835	Industrial Technology-Manufacturing
836	Industrial Technology-Electronics
837	Industrial Technology-Construction
840	Prosthetics & Orthotics Techn. Trng.
850	Industrial Supervision
860	Machine Tool Technology
861	Welding Technology
862	Metallurgical Technology
863	Welding & Metallurgical Engineering
864	Numerical Control Technician
880	Cosmetology
890	Industrial Arts Education
900	Life Science
901	Agriculture
910	Bacteriology
911	Medical Assistant
914	RN Nursing - A.A. Degree
915	RN Nursing - B.A. Degree
916	VN Nursing
921	Physical Therapy
930	Wildlife Management
931	Forestry
932	Forest Management
933	Game Management
940	Biology
943	Botany
950	Pre-Dentistry
951	Dental Hygiene
952	Dental Assistant
959	Home Economics - A.A. Degree
960	Home Economics - B.A. Degree
961	Food Services
962	Airline Stewardess
963	Early Childhood Education
964	Special Education Aide
965	Pre-Medicine
967	Pre-Veterinarian
970	Psychiatric Technician Training
980	Zoology

NOTE: Please indicate teaching majors by placing a suffix with the code number as follows: E-Elementary; S-Secondary; and H-Higher Education (Grade 13 and up.)

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