DOCUMENT RESUME

ED 049 731 JC 710 109

AUTHOR MacMillan, Thomas F.
TITLE Institutional Research as the Field Performs It: A Friendly Look at Ourselves in the California Community Colleges.
INSTITUTION Santa Barbara City Coll., Calif. Office of Research and Development.
PUB DATE Apr 71
NOTE 43p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS Community Surveys, *Cost Effectiveness, Evaluation, Instructional Design, *Junior Colleges, Literature Reviews, *Research Projects, *Research Reviews (Publications), *Student Characteristics
IDENTIFIERS *California

ABSTRACT

The research reports reviewed in this paper are based on responses to a letter from the chairman of the California Junior College Association Committee on Research and Development to each community college in California, asking for a set of recently completed research papers. Between 1968-71 a number of specific publications attempted to bring a program budgeting concept closer to higher education. Several cost model formulas are presented. The most common research reported from California researchers is on student characteristics. Examples of questions asked and their responses are presented. Other surveys report on: performance on standardized tests; grading patterns; transfer follow-ups; grade-point differential; follow-ups of employed graduates; drop-outs; nature of instruction; process of evaluation for the Extended Opportunities Programs and Services provided for under Senate Bill 164; and surveys of community opinion regarding colleges, programs, and services. This is the first attempt by CJCA to make a periodic review of the literature available to the field. (CA)

SANTA BARBARA CITY COLLEGE

April 22, 1971

Thomas F. MacMillan, Ed.D.
Director, Research and Development

Research Office Memo
9-71

INSTITUTIONAL RESEARCH AS THE FIELD PERFORMS IT: A FRIENDLY LOOK AT OURSELVES IN THE CALIFORNIA COMMUNITY COLLEGES

I N D E X

INSTITUTIONAL RESEARCH AS THE FIELD PERFORMS IT: A FRIENDLY LOOK AT OURSELVES IN THE CALIFORNIA COMMUNITY COLLEGES

Introduction:

The 1970-71 academic year has been one of great activity for the research community of the California Community Colleges. Both locally, and state wide, concerns have been raised about just what it is we are doing, what it is we should be doing, and how it is that we can get from "is" to "ought." It has been a year of new developments that have implied the need for examination of alternatives, consequences, and just plain rough and dirty descriptions. It has been the year when "accountability" (my typewriter gags at the effort of putting the cliche on paper yet another time) became the watchword of higher education paranoia. It has been the year of great promise and great threat generated by the evidence that new explorations are to be made in improving the delivery system of higher education at all levels, and particularly in the community colleges by implementation of the promise of "coordinated instructional systems." It has been a year of culmination of efforts relating to the development and evaluation of special services for students, and the year when it appears that resources to support those programs that have been shown beyond question to work are going to be less available than at any time during the past three years. It has been a year when the issue of "evaluation" has been driven home under the name of "tenure" to many faculty members who now find themselves grappling in substantive and productive ways with how to accomplish a meaningful evaluation of faculty performance within a context which maximizes the security of the individual teacher and his rights and obligations as a professional.

Throughout all of this, the Committee on Research and Development of the California Junior College Association has also been engaging in the endless reassessment of its role, and the role of the practicing researcher in the research offices across California. Early in the year, a paper by Hugh J. Turner and Michael Schafer was distributed to the Committee from the Florida Community Junior College Inter-Institutional Research Council. It was, appropriately, titled "The Question of Community College Research" (Florida CJC-IRC, June, 1970). After reviewing a number of possible definitions of "research," the authors concluded that "the implication is unmistakable that junior college research should have no narrow boundaries." They continued, "whether data is gathered for special reports, or whether studies are designed to evaluate methods or to effect change, is really immaterial. The single criterion should be simply that of whether the project will answer an outstanding question of importance to the institution."

In the latest issue of the Review of Education Research, Francis G. Caro published a paper on "Issues in the Evaluation of Social Programs" (RER:41, 2,April, 1971). A Great emphasis is often placed, perhaps in particular by members of the Committee on Research and Development, on the possibility of the research function as being central to the process of change. In its function as a resource for evaluation, the research office often sees itself as a functioning agent of change, and Caro reminds us that such change-agents are not always the most welcome of beasts:

> Where change is thought to be undesirable or impossible, little interest in evaluation can be expected from the guardians of societal institutions. Groups demanding rapid and radical change are also unlikely consumers of evaluative research; their inclinations are likely to be ideological rather than empirical and evaluative researchers are not likely to respond to their information needs rapidly enough. (Caro, 1971, p. 90)

Caro then goes on to state that "evaluative research is most appropriate when program effects cannot be expected to be directly and immediately evident. . .such is often the case in contemporary large-scale education, welfare, and social service programs whose effects are often subtle and diffuse." (Caro, 1971, p. 91)

It is intended that this paper will serve to provide a report back to the field of exactly what kinds of reports have been generated by the field, as it has presented itself during the last year from the various offices of research in the California Community Colleges. It is also intended that the paper will provide a basis for observing the state of the art in California at a time when the art seems under some real pressure for re-consideration, particularly for movement toward the model of evaluative research considered appropriate in Caro's paper.

The research reports reviewed in this paper, it should be emphasized, are not those of the dissertation level students nor of the university faculty nor of the independent researcher engaging in a major study: on the contrary, the review was based on responses to a letter from the Chairman of the CJCA Committee on Research and Development to each researcher in each community college, asking for a set of recently completed research papers from each campus. In context, it must be noted that many of these papers, although they are of general professional interest, never reach the professional field at all. One of the most commonly accessible roads to the profession is through the ERIC Clearinghouse for Junior Colleges at UCLA, and thus through Research In Education. That not all of us are choosing to use this road as an opportunity for sharing our work with the field is clear from a cursory review of Research In Education of the past five months. Since November, there have been 94 studies reported in Research In Education under the category of "junior colleges": 25 percent of these came from California. Of the 24 studies from California, 6 were done by members or former members of the R and D Committee, and 15 (62.5%) were from institutions where a member of the R and D Committee is employed. The point is not to elevate the status of this group of people by doing a show-and-tell about the contribution of the R and D Committee to the field: what is really more likely to be the case is that the majority of the research efforts are simply not being shared with the field. For this reason, the studies reviewed in this paper are likely to have the same familiar names on them: Gold, MacMillan, Heinkel, and the same old crowd. While it is felt that the research reviewed in this effort does represent the variety and scope of the concerns of the field as it has been practiced over the last year since Asilomar 1970, it must be noted that it appears we have a long way to go before we begin to share our efforts more broadly, even among the developing NORCAL and SCIRG groups.

Some Preliminary Cost Analysis Studies: Toward Program Budgeting

The inexorable movement toward implementation of a Planning, Programming, Budgeting System in all segments of California's education system was perhaps given its first impetus by the Advisory Commission on School District Budgeting and Accounting, which was authorized by the California Legislature during the 1967 session. The current planning resulting from the deliberation of the Advisory Commission call for implementation of the system in all California (K-12) school districts by the 1973-74 school year.

Between 1968 and 1971, a number of specific publications tended to bring the program budgeting concept closer to higher education and inevitably to the community colleges. That there is a financial crisis in higher education is the generally accepted conclusion among community college, four-year college and university administrators in all states, and in both public and private education. In an abstract from a forthcoming book, The New Depression in Higher Education, author Earl Cheit noted that sixty-six percent of all institutions of higher education were either "in financial difficulty" or "headed for trouble." Perhaps the instance of adversity closest to home is that of the College of San Mateo, forced by history to consider seriously reducing its staff by 40 percent.

Support of higher education has, in the opinion of experts among administrators and economists, suffered for several major reasons: (1) a general revolt against high taxes; (2) a reduced regard for higher education generally; (3) a reaction of older people against the current styles of younger people; (4) a lingering resentment of campus violence and student reaction against the social issues so dramatically culminated at Kent State and in Isla Vista.

Against the background of such suffering public support for higher education, the burden of proof for educational finance appears to be shifting inexorably to the institutions themselves. A request for finance to the electorate or to the legislature is not of itself sufficient for institutions of higher education any more: it must also be demonstrated that the money will in fact be well used.

In Cheit's opinion, there are three aspects of the task of restoring confidence in higher education, and thereby re-establishing the value of the investment in the functions of higher education. In Cheit's words, "First, the colleges and universities must have campuses that reveal themselves as being reasonably governable: . . "A second requirement for confidence is that they are reasonably efficient in their internal operations: . . "Thirdly . . restored confidence will require convincing evidence that the activities of colleges and universities have a unifying set of purposes - purposes that the supporting public can understand and defer to." (Earl F. Cheit, "Note for a Look at Financial Crisis in Higher Education," The Chronicle of Higher Education, V:11, December 7, 1970)

There is some evidence to suggest that California's Community College System is taking Cheit's three aspects of the task of restoring confidence seriously. Fortunately, history seems to have operated on the side of the community colleges in the area of campus governance, at least to the extent that major confrontations in higher education have been more likely to occur on campuses of the state university or the state college system than on one of the local community college campuses. Further, because the community colleges retain a fierce sense of local autonomy, they have been in a better position to respond quickly to local pressures from their communities, and have remained relatively unhampered by the requirements of belonging to a statewide system, as compared with their more cumbersome senior partners.

Currently, there is much interest in the setting of institutional goals and objectives. The California School Boards Association recently published a set of case studies called Evolving Educational Goals for California Schools, a document which described the efforts of several school districts to involve their communities in an examination of the goals and objectives for education. A similar project has been proposed at the community college level, and a pilot project is expected to be conducted during 1971.

In November, 1970, the California Junior College Association Ad Hoc Committee on Program Budgeting published an Interim report calling for the establishment of a program budgeting system in the community colleges by 1974.

What is advocated by the planned implementation of a planning, programming, budgeting system in the community colleges is a three part process involving the identification of goals, the determination of resources, and the effective allocation of those resources. According to the Ad Hoc Committee report, "the awareness of the advantages of prudently allocating resources has tended to encourage the development of the analytical means (1) for predicting the future resource requirements necessary to achieve a desired level of output that is consistent with the long-range aims and objectives of the institution, given a specific set of allocation decisions, (2) for assessing the implications of alternative allocation decisions on future resource needs, and (3) for evaluating the historical effects of those allocation decisions.

The direction in California is consistent with the direction in higher education throughout the country. In July, 1970, the Western Interstate Commission for Higher Education published a major document, The Outputs of Higher Education, in which the themes of accountability and program budgeting were confirmed beyond question. It is little wonder that the theme of the AAJC conference this year was accountability, and it is no accident of history that 1970 was the year when Watenbarger published The Community Junior College: Target Population, Program Costs and Cost Differentials, a document which is likely to be regarded as fundamental reading in the next ten years for those who would seek comparison data on instructional program costs. One of the recommendations from the study was:

Formulas for Cost Allocations

Cost Model Formulas

CSAM Classification	Incremental Cost for Class Section	Incremental Cost for Course
100 Administration	$X = (\$ \text{ Cost of admin.}) \div S_D$ where S_D = Total number of class sections in the district for the year, including summer session.	$C = X \times S$ where S = Number of class sections for course.
211 President	$X = (\$ \text{ Salary}) \div S_C$ where S_C = Total number of class sections in the college for the year.	$C = X \times S$ where S = Number of class sections for course.
211 Dean of Arts and Sciences	$X = (\$ \text{ Salary}) \div S_{AS}$ where S_{AS} = Total number of arts and science class sections for the year in the college. (For arts and sciences courses only)	$C = X \times S$ where S = Number of class sections for course.
211 Dean of Voc. Education	$X = (\$ \text{ Salary}) \div S_{VE}$ where S_{VE} = Total number of vocational education class sections for the year in the college. (For vocational education courses only)	$C = X \times S$ where S = Number of class sections for course.
211 Dean of Students	$X = (\$ \text{ Salary}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	$C = X \times S$ where S = Number of class sections for course.

Cost Model Formulas
(continued)

CSAM Classification	Incremental Cost for Class Section	Incremental Cost for Course
212 Vocational Coordinator		C = ($ Salary of Coord. + $\frac{D}{n}$) ÷ V. where n = Number of vocational coordinators. D = $ Salary of Director of Voc. Ed. X = Number of vocational courses supervised by coordinator during the year, including summer session. (For vocational education course only)
213 Teacher	X = ($ Salary) x ($H + \frac{h}{K}$) ÷ ($2H_T$) where H = Weekly contact hours of exclusive instruction for class section. h = Weekly contact hours of instruction shared with other class sections. K = Number of class sections sharing instructional period. H_T = Total weekly contact hours of assigned teaching load.	C = Summation of teacher costs for each class section of course.

Cost Model Formulas
(continued)

CSAM Classification	Incremental Cost for Class Section	Incremental Cost for Course
214 Registrar	$X = (\$ \text{ Salary}) \times N \div N_{DT}$ where N_{DT} = Total number of student enrollments in all class sections in the district, including summer school. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.
214 Librarians	$X = (\$ \text{ Salary}) \times N \div N_{T}$ where N_{T} = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.
214 Counselors	$X = (\$ \text{ Salary}) \times N \times (1 - \frac{H}{15}) \div N_{T}$ where N_{T} = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section. H = Weekly contact hours of instructional assignment.	C = Summation of costs for each class section of course.
220 Classified Salaries of Instruction	Use formulas corresponding to administrative assignment that position(s) support.	

Cost Model Formulas
(continued)

CSAM Classification	Incremental Cost for Class Section	Incremental Cost for Course
240 Books	$X = (\$ \text{ Cost}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of cost for each class section of course.
290 Other Expenses of Instruction	Expenses identifiable with a course area: $X = (\$ \text{ Cost}) \div S_{CA}$ where S_{CA} = Number of class sections in the designated course area.	C = Summation of costs for each class section of course.
400 Health Services	$X = (\$ \text{ Cost}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.
620 Salaries for Operation of Plant	Grounds Care: X = ($ Salaries for Grounds Care) x N ÷ N_T where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.

Cost Model Formulas
(continued)

CSAM Classifcation	Incremental Cost for Class Section	Incremental Cost for Course
620 Salaries for Operation of Plant (continued)	Noninstructional Area Care: $X = (\text{Salaries for Building Care}) \times \frac{A_{NI}}{A_T} \times \frac{N}{N_T}$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section. A_T = Total floor area of buildings. A_{NI} = Noninstructional area of buildings. Instructional Area Care: $X = \frac{(\text{Salaries for Building Care})}{A_T} \times A_I \times (H + \frac{h}{K}) \div (2H_T)$ where A_T = Total floor area of buildings. A_I = Instructional area used by class section. H = Weekly hours that class section occupies instructional area on an exculsive basis. h = Weekly hours that class section occupies instructional area on a shared basis. K = Number of class sections sharing instructional space simultaneously. H_T = Total weekly hours that instructional area is occupied by various class sections.	

Cost Model Formulas
(continued)

CSAM Classification	Incremental Cost for Class Section	Incremental Cost for Course
690 Other Expenses for Operation of Plant	$X = (\$ \text{ Cost}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.
700 Maintenance of Plant	$X = (\$ \text{ Cost}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.
810, 820 Contributions for Employees Retirement	X = (Summation of salary expenses for class section) x r where r = Average rate factor for health and retirement insurance. (Separate calculations are required for certificated and classified salary categories)	C = Summation of costs for each class section of course.
890 Other Fixed Charges	$X = (\$ \text{ Cost}) \times N \div N_T$ where N_T = Total number of student enrollments in all class sections in the college. N = Number of students enrolled in class section.	C = Summation of costs for each class section of course.

> Federal and State legislators should be encouraged to become familiar with the differentials in program costs and to recognize this information in determining appropriations. (Watenbarger, p. 129)

Thus the need for hard data as a basis upon which life-blood decisions are being made is clearly portrayed for the community colleges. If there remains any doubt on the issue of whether cost analysis and cost effectiveness studies will be part of the responsibility of the California colleges, that doubt can be dispelled by the agenda of the Board of Governors for February, 1971, in which it is stated that "the Chancellor's Office will provide for developing improved Community College fiscal information and reporting. "The objective is to develop improved community college fiscal data organization and reporting procedures, including a basic California Community College budget and accounting structure . . ." The target date is 1973-1974 for implementation in all community college districts.

To the knowledge of the R and D Committee, only two major attempts have been made during the last year to conduct a comprehensive cost analysis of programs in the California Community Colleges, other than in doctoral dissertation research which may not be known to the Committee. The two comprehensive studies were conducted by Otto Heinkel (July, 1970) and Tom MacMillan (March, 1971). Studies of a smaller scale were also reported by Bill Preston and Rich Brightman.

The model offered by Heinkel was thorough and complex. Formulas for associating costs with programs from the model are given on the following pages for the interest of anyone who may be exploring such a comprehensive system.

Heinkel's findings showed "in general, that on a per student basis vocational education costs were greater than those for arts and sciences education." (Heinkel, July, 1970, p.2)

Heinkel also noted that "course attrition, when put into monetary terms such as dollar loss equivalent, tends to provide a more informative picture for comparing investment results between vocational and non-vocational courses . . . . smaller losses were generally incurred for the vocational courses." (Heinkel, July, 1970)

MacMillan's model was less comprehensive, making use of budget category 213 (teachers' salaries) as the basic data, and generating a TCE estimate per division by relating total current expenses to the percentage of TCE accounted for by teachers salaries (50.04%). Costs in MacMillan's model were associated on a per-student and per weekly student contact hour basis. As with Heinkel's findings, the category 213 costs in the vocational-technical division, health occupations, and business divisions were generally higher than the institutional average of $13.96 per WSCH. The specific costs reported were: Voc-Tech, $19.91; Business, $17.69; and Health Occupations, $27.78. (MacMillan, March, 1971)

In further confirmation of Heinkel's study course, attrition and attendant theoretical increase in costs was lowest (10.85%) in the Health Occupations, and lower than average (24.69%) in the Vocational-Technical Division (13.59%) and Business Division (22.71%)

Both of the California studies were consistent with the National data reported by Watenbarger.

The importance of such cost analysis studies is only partly related to the thrust toward program budgeting. In addition, such studies will provide valuable additional base line data on which the effectiveness of various instructional or counseling innovations can be evaluated. This dimension will be particularly important in assessing, for example, the effectiveness of coordinated instructional systems by allowing the researcher to consider performance and persistence gains within a context of costs.

Student Characteristics Research in the Community Colleges

A. Student Characteristics

Perhaps the most common kind of research reported from the California researchers is in the area of student characteristics. Almost every college produces that annual Fall Student Characteristics Survey and maintains records for longitudinal comparisons. During the past three years, the NORCAL Project, now directed by Don Kester of DeAnza, has accumulated a substantial data base on the characteristics of entering freshman day students. The 1968 and 1969 data comparisons from the NORCAL project are shown below. In general, the characteristics of community college students as reported in Cross (1968) and earlier in Medsker (1960) are still reflected in the NORCAL data, and in the reports from around the State. Data from the entire three year project are expected to be made available by Kester in 1971. Although the figure varies according to the way the question is asked, the intention of students to transfer is probably reflected with acceptable accuracy in the NORCAL data, in which 58% in 1968 and 52% in 1969 expressed an intention of transferring to a four-year college, with or without an AA degree.

SUMMARY AND COMPARISON

NORCAL DATA 1968 - 1969

	1969		1968	
Race	N	%	N	%
Caucasian	15,531	73.31	21,455	78.36
Spanish Surname	1,122	5.29	1,120	5.22
Black	1,020	4.82	1,805	6.48
Oriental	1,316	6.21	1,671	6.10
Other	540	2.47	927	3.28
No Response	1,654	7.80	309	1.12

	1969		1968	
Sex	N	%	N	%
Male	10,941	51.64	15,336	56.02
Female	8,070	38.09	12,044	43.98
No Response	2,172	10.27	0	0

	1969		1968	
Marital Status	N	%	N	%
Single	17,989	84.92	24,586	89.79
Married	1,320	6.23	2,327	8.49
Divorced/Separated	280	1.33	402	1.45
No Response	1,594	7.52	65	.31

If employed, will you keep your job?

	1969		1968	
	N	%	N	%
Yes	8,861	41.83	11,796	43.08
No	3,024	14.27	4,013	14.65
Not employed	8,371	39.52	10,304	37.63
No response	927	4.38	1,237	4.64

If employed, is the job related to your college major?

	1969		1968	
	N	%	N	%
Yes	1,928	9.10	2,840	10.37
No	9,803	46.28	12,136	44.32
Not employed	8,017	37.84	10,035	36.65
No response	1,435	6.78	2,369	8.66

Will you need financial aid to remain in college?

	1969		1968	
	N	%	N	%
Yes	4,477	21.13	4,429	16.17
No	14,942	70.53	21,580	78.81
No response	1,764	8.34	619	5.02

Mother's encouragement for college:

	1969		1968	
	N	%	N	%
Not very important	1,050	4.96	2,320	8.47
Somewhat important	3,071	14.49	2,130	7.78
Quite important	7,205	34.01	5,408	19.75
Extremely important	8,196	38.69	16,362	59.75
No Response	1,661	7.85	1,160	4.25

Importance of College to self:

	1969		1968	
	N	%	N	%
Not very important	295	1.40	1,035	3.70
Somewhat important	1,901	8.97	1,032	3.77
Quite important	6,965	32.88	5,326	19.45
Extremely important	11,038	52.11	18,856	68.87
No Response	984	4.64	1,131	4.13

Goal for College:

	1969		1968	
	N	%	N	%
I haven't decided	1,961	9.25	1,996	7.29
Take courses only	888	4.19	938	3.42
Voc/Tech courses	2,725	12.89	3,095	11.30
AA Degree only	1,102	5.20	1,599	5.84
AA and Voc/Tech	2,650	12.51	3,235	11.81
Transfer	11,103	52.41	15,937	58.21
No Response	754	3.55	580	2.13

Socio-economic status ("Head of Household" employment)

	1969		1968	
	N	%	N	%
Unemployed	405	1.92	319	1.16
Unskilled	1,941	9.16	2,681	9.79
Semi-Skilled	3,412	16.11	4,400	16.07
Skilled	5,730	27.05	9,611	35.10
Managerial	4,495	21.32	5,298	19.34
Professional	3,981	18.79	4,445	16.26
No Response	1,219	5.75	626	2.28

Mother's Employment Status:

	1969		1968
	N	%	N %
Full-time	6,804	32.12	Data not Collected
Part-time	3,062	14.45	
Not employed	10,420	49.19	
No Response	897	4.24	

Father's encouragement for college:

	1969		1968	
	N	%	N	%
Not very important	1,627	7.68	2,760	10.08
Somewhat important	3,239	15.29	2,662	9.72
Quite important	6,661	31.44	5,127	18.72
Extremely important	7,316	34.53	15,007	54.81
No response	2,340	11.06	1,824	6.67

Anticipated obstacle to college:

	1969		1968	
	N	%	N	%
Academic	3,152	14.87	Data not collected	
Financial	4,659	21.99		
Marriage	2,465	11.63		
Motivation	3,287	15.52		
Other	6,127	28.92		
No Response	1,493	7.07		

Distance from college:

	1969		1968	
	N	%	N	%
1-5 miles	9,077	42.85	Data not collected	
6-10 miles	5,798	27.37		
11-15 miles	4,742	22.38		
16-20 miles	1,222	5.77		
Over 20 miles	1,519	7.17		
No response	1,175	5.54		

Time to get to college:

	1969		1968	
	N	%	N	%
10 minutes or less	6,086	28.73	Data not collected	
10-30 minutes	11,314	53.41		
30-45 minutes	2,142	10.11		
45-90 minutes	775	3.66		
Over 90 minutes	137	.65		
No Response	729	3.44		

Mode of transportation:

	1969		1968	
	N	%	N	%
Own car	13,545	63.94	Data not collected	
Car pool	1,752	8.27		
Public transportation	2,114	9.98		
School Bus	689	3.25		
Other	2,274	10.73		
No Response	809	3.83		

Most significant source of advice:

	1969		1968	
	N	%	N	%
N.R.	954	4.51	Data not collected	
No one	959	4.52		
Father	4,739	22.37		
Mother	1,956	9.23		
Teacher	1,493	7.05		
Counselor	8,416	39.73		
Bro/Sister	952	4.50		
Friends	863	4.07		
Other	851	4.02		

B. Academic Aptitude

In the last year, attention has been given to the issue of standardized testing in California's community colleges, and reports of performance on standardized tests are to be found as part of the common repertoire of the research officers throughout the state. The extent of the use of such tests was reported in Reilley's (1967) study in which 48 of 79 community colleges reported using the ACT battery in the Fall of 1967. The history of ACT in community colleges nationwide has yielded some useful comparisons between two-year and four-year college students. Hoyt and Munday (1966) reported that "in overall academic potential, junior college students in this study average about one-half a standard deviation below four-year college freshmen; the average junior college freshmen would rank at about the 30th percentile of the four-year group." (Hoyt and Munday, 1966, p.14)

NORCAL Project data included tabulations of ACT test performance of 8063 students in 11 Northern California colleges in 1969. While the general findings of Hoyt and Munday were supported by the distribution of scores in the more recent sample, it was also noted that scores for minority students appeared to be measurably skewed: compared with 23% of the Caucasian students reporting scores below the 33rd percentile on the ACT Composite score, 47.92% of the Chicano and 72.97% of the Black students in the sample showed a Composit score below 15, roughly the thirty-third percentile. The criticism of standardized testing on the basis of cultural bias appears to be supported by the distribution of scores for minority students in the NORCAL sample. (MacMillan, 1969).

Another commonly used measure of academic aptitude is the School and College Ability Test. Ben Gold reported a longitudinal study in which SCAT scores for students at Los Angeles City College were compared over the span of years between 1958 and 1969. Gold (1971) reported that "On the Verbal part of the SCAT, LACC students averaged at about the 40th percentile when

compared to nationwide freshmen." The mean scores ranged between the 39th and 42nd percentile over the twelve year period. "On the quantitative part of the SCAT, LACC students averaged at about the 30th percentile, when compared to nationwide college freshmen." Gold noted a distinct drop in performance on the SCAT-Q in 1966, with the average from 1966 to 1969 falling between the 29th and 30th percentile. For the SCAT Total, the range was "from 29th to 35th, with a distinct drop in performance occurring in 1966."

At Santa Barbara City College, MacMillan (October, 1970) reported significantly lower means on the two sub-test and total scores between 1968 and 1970. More interestingly, perhaps, he found that there was a significantly greater variance on the SCAT Verbal sub-test in 1970 than in 1968. The evidence in both Gold's and MacMillan's studies was gathered during a time when new thrusts were being made in the extension of opportunities to students with special needs, particular students of color, in the two colleges. Although much more evidence may be needed to draw any inferences, it may be speculated on the basis of student test scores that the extension of opportunities is being reflected in an increasingly diverse student body, both in terms of racial mix and in terms of academic aptitude.

With measured ability of minority students appearing to be so distinguishable from that of the Caucasian majority of which the norming samples may be composed, there is some question whether the use of such standardized tests is appropriate for all students. Indeed, specifically referring to the use of test scores as admission criteria, Steve Sheldon made the charge that "certainly, a philosophical gap exists between the use of test scores as admission criteria to particular curricula, and the statement of philosophy that is summarized by the phrase 'open door college.'" (Sheldon, December, 1970) Challenging the entire "psychometric model," Sheldon continued his point:

> The psychometric model is most useful for describing the status of groups. It is next most useful for predicting the performance of groups. It has some utility in describing the status of individuals, but very little in predicting the performance of individuals - <u>but the latter is what it is most often used to do</u>! (Sheldon, December, 1970)

Both Gold and Heinkel have added evidence to support Sheldon's contention of a philosophical gap. From Gold: "Correlational studies compared SCAT performance with overall first semester grade point averages and grades in a variety of courses. Correlation coefficients ranged from -0.10 to +0.64, and the SCAT was found to have limited usefulness in placement in certain courses." (Gold, January, 1970) Heinkel: "This study clearly indicates that the American College Test scores do not significantly improve the validity of predictive expressions developed with other than test variables." (Heinkel, 1971)

The amount of research in the areas of alternative instructional strategies was relatively small among the community college practitioners, especially given the great activity of the year in generating interest in the topic. In addition to the major new work by Bloom et. al, and the other nationally visible publications alluded to above, there was McKeachie's (November, 1970) review, Research on College Teaching: A Review, and Olmstead's Theory and State of the Art of Small Group Methods of Instruction (March, 1970). It is evident that, as coordinated instructional systems, and as other strategies for improving learning begin to emerge, there will be an increasing need for the services of the researcher to evaluate outcomes and methods. At the CJCA Committee on Instruction Conference on Coordinated Instructional Systems in Burlingame last Fall, the R and D Committee suggested that there appears to be the need for several critical directions for evaluation, among which they listed:

> There is a need to consider student persistence and achievement data within a context of specified performance objectives, related to specific courses of instruction.
>
> There is a need to consider alternative costs for development, ancillary services(e.g., tutoring) and professional staff time in traditional vs. coordinated instructional systems.
>
> There is a need to compare student persistence and performance within an experimental design, to include random assignment of students and appropriate pre-post measurements of achievement (performance).
>
> There is a need to consider persistence and achievement for students of different abilities and other differing characteristics (e.g., racial or ethnic extraction, sex, etc.)
>
> There is value in including survey opinionnaire evaluations of alternative learning systems for both staff and students, as a supplement to objective performance and cost criteria.

As things now stand, the field needs to consider carefully what will be the relationship of the researcher to evaluation of learning under the emerging approaches. A closer and more critical look at evaluation, both in terms of the traditional measures of persistence and performance, and additionally in the area of costs, will be called for in the coming year. It is hoped that we may be afforded, and be ready to accept, an opportunity of service in this most critical area of research.

Now, there are really several issues that are contained under the general heading of the usefulness of standardized tests. In context of history, it must be recalled that more liberal course withdrawal policies have emerged in the last three years, and the use of g.p.a. as criterion variable may be becoming less and less appropriate under any circumstances. In the context of history, it may also be remembered that the testing companies themselves are in the process of re-evaluating their own services, and that substantial revisions have been made in new instruments, say, from the American College Testing Service. Finally, it may be noted that substantial crops in the SCAT Quantitative scores may have been associated historically with changes in the Mathematics curriculum in the secondary schools: SCAT may just be irrelevant on the basis of its emphasis on calculation skills and traditional concepts.

As an alternative for the use of standardized tests to provide cutting scores for access to certain courses or curricula, Sheldon advocated that "the logical alternative is to determine as explicitly as possible the entry skills required for a particular course or curriculum and to devise procedures to evaluate the students' mastery of these skills." (Sheldon, December, 1970). Sheldon's challenge may be well taken by the researchers in the California community colleges. Indeed, the NORCAL consortium has submitted a project for VEA Research funding that may make it possible for a consortium effort to be made in exactly the direction to which Sheldon points. Otto Heinkel has also prepared a proposal for a state wide evaluation of the use of standardized testing instruments in California Community Colleges. It may be expected that the CJCA Committee on Research and Development will provide both support and service to the concept of these two studies.

C. Performance and Grading Pattern Studies

Since Walt Brooks published his study of non-penalty grading almost three years ago, a great deal of interest has been shown in the subject, both state wide and nationally. Timothy Purser (September, 1970) reported a national study on the abolishment of academic dismissal and failing grades. Ten percent of the national sample of 100 institutions were California community colleges, although Shasta College was not included in the random sample. Purser reported interesting regional differences in policy: while 33% of the institutions in the Far West had reported abolishing academic dismissal and/or "F" grades, none of the institutions in the Southwest, Mideast or New England states had such a policy.

Merle A. Dietz (March 23, 1971) reported changes in policy on the awarding of "W" grades in California over the last year. He stated, "A study of 81 colleges a year ago showed that eight colleges allowed unrestricted withdrawal up to the final examination, three more permitted instructor assigned withdrawals at any time, and one college gave "W" grades to all students who did not take the final." Dietz continued, "the number of colleges permitting the failing student to withdraw without penalty up to the final examination or after the final examination (a total of 28 colleges) is so much larger than a year ago that the conclusion can be drawn that the community colleges have

liberalized their withdrawal policies." (March, 1971) Specifically relating Purser's study to California, Dietz found that "last year five colleges had eliminated "F" grades and four were experimenting with the policy: this compares with seventeen colleges with a policy of no F's this year." (March, 1971)

Ben Gold has reported a longitudinal study of grading practices at Los Angeles City College from 1955 to 1969, during which time four different sets of policies were operant affecting student withdrawal from individual courses, and the awarding of W or WF grades. Since 1969, the policy has been to award no grade if the student withdrawal from an individual course occurs during the first five weeks (to the first day of the sixth), and a W grade with no penalty after that.

Comparing 1955 to 1969, the grade average for the Fall, 1955 Day students at LACC was 2.36, as compared with 2.40 for the comparison group in 1969. Withdrawals, with and without penalty in 1955, accounted for 8.5% of the total day distribution; for 19.0% in 1969. Honors grades (A and B) accounted for 41.0% of the total day distribution in 1955; for 47.0% in 1969. (Gold, October, 1970, Table 1)

Donald Ewing (December 16, 1970) reported that A and B Grades tended to increase in the Foothill district (to about 20% and 25%), while "gradually the percentage of D and F grades has diminished to the point of virtual disappearance (to approximately 4% and ½%)." Further, "there has been a steady increase in the percentage of W grades (to approximately 28%)". (Ewing, December 16, 1970)

In a more consistent finding with what Brooks suggested in 1968, MacMillan reported that at Santa Barbara City College "fewer students were awarded non-penalty grades (W) following the adoption of the less restrictive policy; fewer penalty grades were awarded; and proportionately greater numbers of achievement (A,B, and C) grades were awarded in every instructional division at SBCC one year after the policy had been adopted." (February 18, 1971) The percentage of achievement (A,B, and C) grades ranged from 53% in the Mathematics Division to 87% in Health Occupations.

There appears to be the need for a more systematic investigation of the impact of liberalized withdrawal policies and changing patterns of grading in the California community colleges. The kind of longitudinal study reported by Gold could provide a model for consortium to exchange such data on a meaningful basis that might suggest whether patterns are emerging state wide, or whether the impact of policy and practice is a more strictly local matter.

One intriguing approach to the question of performance was found in Rich Brightman's "Holding Power" (February, 1970) report from Project Follow-Through. In the study, Brightman compared the "numbers of students indicating interest in major areas who returned to the college in the Spring semester, 1969, after enrolling for the first time the previous Fall semester." (February, 1970, p.1.) Although the patterns are likely to be local rather

than typical, the list of "Holding" (80% persistence from Fall to Spring) majors from Golden West College is offered for comparison: Accounting, Journalism, English, Library Science, Art, Humanities, Music, Photography, Home Economics, Dentistry, Forestry, Medicine, Pharmacy, Chemistry, Dental Technology, Vocational Nursing, Recreational Leadership, Anthropology, Economics, Geography, Pre-law, Political Science, Social Science, Sociology, Social Welfare, Behavioral Sciences, Social Service Associate, Architectural Technology, Cosmetology and Electro-Mechanical Drafting. (Brightman, February, 1970)

In another study, Gold (December, 1969) reported that, in a sample of 197 transfers to the University of California at Los Angeles, "70% of the 197 transfers were ineligible to be admitted to the University at the time of high school graduation." From the perspective of the field, it is obvious that community colleges are continuing to provide access to higher education, and that the persistence and performance of community college graduates in upper division work is strong.

More specific evidence on how strong is the performance in upper division was provided from Santa Barbara City College, (September, 1970) in a study which examined grade point differentials, not only for each state college campus, but also for specific subject matter areas at the University of California. An incidental finding reported in this study was that "69.03% of the transfers did not receive the A.A. degree prior to transfer: 30.97% transferred with the associate degree." Of some interest was the fact that there appeared to be great variety in the performance of students at various state college campuses: "statistically significant gains in g.p.a. were found among transfers to Sonoma, Stanislaus, and Cal Poly," but at the same time, "statistically significant losses in g.p.a. were found at Hayward and San Fernando Valley State." For specific subject matter areas, MacMillan reported that there were statistically significant differences in grades between SBCC and U.C. in the following subject matter areas: Anthropology, Chemistry, English, History, Mathematics, Philosophy, and Sociology. No significant changes were reported in: Art, Drama-Speech Economics, Music, Psychology, Political Science, and Spanish. In Gold's (December 1969) study, he reported that "students taking classes in eight departments at UCLA averaged above a B average in work in each of the departments, vis., Music, Dance, French, Oriental languages, Theater Arts, Art, Education and Spanish." It is interesting to note the similarities in the two lists.

D. Transfer Follow-ups

A number of colleges have also reported following their transfer students, and the grade-point differential study is again part of the common repertoire of researchers in California community colleges. Ben Gold (June, 1969), Paul Preising (1970), and Bill Wenrich (July 28, 1970) have all reported follow-up studies of graduating classes from their three colleges, LACC, San Jose City, and College of San Mateo. Seventy percent of the graduates of

CSM in the Spring of 1970 indicated an intent to transfer, and about two thirds of the responding graduates from Los Angeles City College actually did transfer, a figure that is consistent with a 1963 study of graduates.

Preising reported that "over half of all those responding felt they had been very well prepared" for upper division study. In Gold's study "less than 7% of any sub-group rated their LACC preparation poor, and over two-thirds of each sub-group indicated that if they had it to do over again, they would first attend a junior college." Gold grouped his respondents by sex, ethnic background, and post-junior college activity. The LACC study also revealed that "Black students showed the highest percent in college--especially Black males, of whom only 10% did not continue their education."

E. General Follow-Up of Graduates

Wenrich (August, 1970) and Gold (June, 1969) reported follow-up findings for graduates who entered the world of work immediately upon graduation. In Wenrich's study, "half of the graduates who were employed or seeking employment said they would work in San Mateo County. Another one-third said they would work in the Bay Area." The most frequently reported employment preferences were in technical or secretarial positions.

Gold reported (June, 1969) that "graduates in twenty-two Vocational Technical curricula found employment, 70% of them in the field for which they had specifically trained." In addition, "Technical Engineering, Electronics, Business Data Processing, and Nursing graduates indicated highest median level first year salaries, X-ray and Dental Assistant the lowest." The range of salaries was between $300 and $900 per month. State wide, a number of studies were reported in which follow-ups were made for specific occupational programs. The most common follow-up studies were made in health occupations.

There appears to be a need for further use of the follow-up study in Vocational programs. In general, the major follow-up activity is confined either to the transfer student or to the dropout. Greater emphasis on the impact of vocational education in the communities served may be both of interest and of value to us in the next five years.

F. Drop-Out Studies

While the majority of the studies listed above pertained to community college graduates, 1970 was also a year in which the follow-up of dropouts was an important function. The NORCAL groups (MacMillan, June, 1970). In this study, 1,585 dropouts from fifteen Northern California community colleges were contacted to ascertain their current activities, and the reasons for their discontinuing their enrollment. The response rate for the sample was 47.31%, but the characteristics of the responding group were very similar to the general NORCAL sample of all students, so it was anticipated that the findings could be accepted with some confidence. If the picture for community college graduates was positive in general, it was certainly mixed for many of the dropouts. The findings of the study are summarized below.

The greatest proportion of responding students reported discontinuing their enrollment to take employment unrelated to their college course; motivation, problems of enrollment, and transfer to another institution accounted for another 59.4% of the responses. Transportation problems and falling behind in course work were reported by minority students in much greater frequency than for Caucasians; Spanish Surname students appeared particularly vulnerable to motivation concerns.

Confirming the previous responses, the greatest proportion of students indicated that they were not working (33.7%) or looking for a job (17.5%). Again, 15.2% were reported actually to be enrolled in another institution.

Only 7.3% of the respondents reported that they "probably won't go back to college." There were differences in response by race, with no Black students saying they would not return, and 15% of the Spanish Surname intending to make the break permanently. The majority of students said they would return immediately (37.1%) or at least in the future (47.7%).

The distributions of income seemed high for responding students: 43.8% reported family incomes of $11,000 or higher. Minority students reported lower incomes, and there was evidence that, for all students except Blacks, eligibility for financial aid seemed to be in harmony. For Black students, however, fewer than half the proportion claiming to be eligible for financial aid actually received it.

The NORCAL group intends to report the second year follow-up for students in the participating colleges who completed one year and then did not re-enter their host institution for the second year. Don Kester will report the findings of the NORCAL group in June, 1971 for this second phase.

Another major follow-up effort has been taking place in the Coast Community College District under the direction of Richard Brightman for the past two years. In his report entitled "They Didn't Come Back," (May, 1969), Brightman followed a sample of 1,631 students who enrolled in the Fall, 1968, but did not re-enroll in the Spring, 1969. The response rate to his mailed questionnaire of non-returning students was 21 percent, or 344 out of 1,631. Ninety-five percent of his respondents reported that they did not complete their junior college program while enrolled (a one semester period). Eighty four percent reported that they were not currently enrolled in college courses, although 44 percent of these respondents reported that they intended to re-enroll the following semester. The picture for Brightman's sample was particularly grim in the employment area: only six percent were employed in occupations for which they had received any training in junior college: 54% were in unrelated occupations, and 32% were not employed. Brightman makes a very strong case for interpreting the findings of this study carefully, since the sample was composed only of students who entered and left the community college after only one semester. In light of this and the NORCAL study, it is evident that for such students as this, strategies for dealing with the specific problems of students likely to withdraw within their first semester, or before their second semester of college work must be developed with high impact if they are to have any value: the finding that eighty-four percent of these students were not enrolled in higher education suggests that for the majority of th

potential dropouts, the community colleges may in fact have only one chance to serve these specific needs. Again, it is hoped that the experimental Phase III report of the NORCAL project may reflect experimental evidence of the impact of programs designed to meet these special needs.

Summary

Perhaps the most extensive attention of the practicing researchers in the California community colleges is given each year to issues of describing students: who they are, where they came from, what they are like academically, how long they stay with us, why and how they leave, and what happens to them after they go. It may be that we are getting better at these tasks of providing information to ourselves about the nature of our students. Certainly it is the case that the issues of student information mangement and access to student data are being taken very seriously throughout the state. A comprehensive model for "Student Personnel Effectiveness" is being developed in doctoral research from Mt. San Jacinto College. Interestingly enough, in light of its consistency with the theory program budgeting advocated for the analysis of cost effectiveness of programs, one of the principal sources of criterion variables in the effectiveness study was the statement of institutional goals.

Rich Brightman has made a remarkably clear case for the usefulness of a comprehensive information management system of student data. The whole model of Project Follow-Through is worthy of the consideration of the State as there is an increasing need for more and better access to data for decision-making. Brightman concludes his Phase III report with a challenge to the researchers, and perhaps to the R and D Committee and the Chancellor's Office as well.

Research in Instruction in the Community College

This last year has been an exceptional year for concern about and inquiry into the nature and consequences of the instructional process. One of the most influential articles in education during the last ten years was perhaps Benjamin Bloom's "Learning for Mastery." (Bloom, 1968) In it, Bloom challenged the competitive, grade-on-the-curve assumptions of education and suggested that a set of strategies might be formulated to help students achieve mastery through a systematic approach to learning based on two pre-conditions: 1) the specification of the objectives and content of instruction, and; 2) establishment of standards of mastery and excellence apart from interstudent competition. The philosophy expressed in Bloom's paper has very recently been put into a major work by Bloom and others, the Handbook on Formative and Summative Evaluation of Student Learning (Bloom, Hastings and Madaus, 1971). The work is likely to be taken seriously, as are Bloom's words on the evaluation of alternative learning strategies:

> "We suspect that no specific learning material or process is indispensable. The presence of a great variety of instructional materials and procedures and specific suggestions as to which ones the student

> might use, help the student to recognize that if he cannot learn in one way, alternatives are available to him.

With the passage of AB1171 on coordinated instructional systems, the California community college researchers found themselves called upon to provide a sense of context to the field. Several of them responded with exceptional contributions to the field, perhaps most notably John Hinton (1970), whose paper on audio-tutorial practices in California community colleges was both thorough and timely. The fact that the field is taking the potential of coordinated instructional systems seriously is revealed in Hinton's finding that 72% of the California Community Colleges either have or plan in the near future to have audio-tutorial systems on campus. In his concluding remarks on the effectiveness and promise of such an instructional strategy for California, Hinton stated:

> Students in audio-tutorial do learn more, in less time. The orientation of course construction away from teacher preparation and delivery and toward student learning appears to have wholesome ramifications. Emphasis on measures of established objectives encourages both the student and the faculty to self-assessment. Student self-pacing, knowledge of objectives and knowledge of results, coupled with convenience of scheduling student learning times, are overwhelmingly and favorably commented upon by students. From three quarters to ninety plus percent of the students prefer audio-tutorial to conventional methods when they have experienced both. Student performance; according to grades attained, are better in AT presentations than in conventional instruction. Learner involvement in learning is educationally sound, theory-based, and administratively practical. (Hinton, 1970, p. 72)

What the emerging learning strategies are attempting to accomplish was put in context by Bruce Monroe four years ago in a faculty meeting at Mt.San Jacinto College, but the point is still relevant:

> We usually think of standard instruction, a typical lecture-discussion course, as being 75-75. Seventy-five percent of the students achieving seventy-five percent of the objectives . . . Media courses and other alternative instructional strategies are attempting to bump that figure up to 80-80, to 80-85. As you know, astronaut training is based on 95-100. Ninety-five percent of the astronauts will achieve 100% of the skills, objectives, abilities before the training is over. (Monroe, 1967)

Hinton's paper reviewed some of the findings relative to students performance and attrition under audio-tutorial systems: At West Los Angeles College there was a significant difference in attrition under AT. Golden West reported that failures and dropouts decreased by 66% when AT was initiated at that institution. The college still reports a conventional dropout of 40% and an AT dropout of 20%. El Centro College reported a 40% attrition under conventional instruction, compared with 10% under AT. In Monroe's experiments at Mt. San Jacinto, he found that when students were denied audio-tutorial practice in skills courses, their achievement went down 11% and their dropout rate increased. The evidence suggests that there is promise in alternative instructional strategies. An excellent pamphlet for those who would plan for multi-media instruction emerged from the experience of Richard Bannister at Mt. San Jacinto, and was published during October, 1970 as ERIC Topical Paper number 13. It is commended to the attention of Asilomar Conference participants.

Other studies were also reported by researchers in the field during the last year. Richard Brightman evaluated the impact of computer assisted learning in the two areas of Computer Operations and Police Search and Seizure. In both cases, the performance of experimental groups using computer-assisted learning modules was compared with a control group being taught by conventional methods. On "Project CALCOP," Brightman concluded "the learning procedures followed at Golden West College in the area of search and seizure were more effective than were the procedures followed at the Los Angeles Police Academy . ." Brightman further noted that "although we are not prepared on the basis of Project CALCOP to conclude that the computer assisted learning portion of the learning system devised is more effective than classroom instruction, we do think that the total learning system including independent study of the syllabus as well as computer assisted case problems, presents a more effective learning environment in the area of search and seizure than does conventional classroom instruction." (Brightman, November, 1970)

It is clear that the evidence on computer assisted learning is mixed at least in the experience of the Coast Community College District. For most of us, perhaps, the situation is one of restricted resources, and the place of computers is as Oettinger pictured it in Run, Computer, Run: "If we want real technological change, not just the appearance of it, we must, as in all enterprises, invest money in better ideas and better people. . . With 46.5 million pupils expected in public schools by 1975, each additional dollar to be spent on one child translates into $46.5 million on a national scale." (Oettinger, 1969, p. 51) At this point, and on the basis of experimental evidence, it may be that the educational gains cannot alone justify the allocation of resources for the exclusive use of the computer as a tool of instruction, although it may provide a valuable adjunctive use in addition to its applications for other district uses.

Extended Opportunities Programs and Services

A major concern of the CJCA Commitee on Research and Development during 1970-71 has been the process of evaluation for the Extended Opportunities programs and services provided for under Senate Bill 164 (Alquist). It has been the position of the Committee that, since programs are funded in terms of locally established and stated goals, the proper location for evaluation should also be local. This is not to say that accountability should not be decreased by making evaluation requirements more loose or flexible. On the contrary, the local evaluations should be comprehensive and indications of the specific strengths and weaknesses of the EOPS program as evaluated in terms of the locally defined objectives. At the same time, the Committee recognized the need for presenting to the Board of Governors and the Legislature a comprehensive program description which would indicate clearly low resources had been allocated, and with what consequences in terms of student achievement and persistence. It has been the position of the Committee that the state wide descriptive data would be inappropriate for comparisons among programs state wide for a variety of very specific reasons:

1) Not all colleges have the same course withdrawal policies, grading policies, or standards for academic probation. Thus, for example, a mean g.p.a. of 2.20 may be exceptional in comparison with other students on a campus with a high proportion of "penalty" (D, F, WF) grades awarded, but it would not be exceptional under other conditions.

2) Not all colleges use standardized tests at entry, and indeed there is much evidence that the performance of low income minority students on most tests would be likelier to reflect the bias of the test rather than the potential of the student. Thus, many colleges, for defensible reasons, could not provide academic aptitude or achievement data.

3) While it is the case that racial or ethnic extraction could be identified for EOPS students receiving certain services, a number of colleges do not maintain a specific racial identification for individual students in the student master file, but comply with racial and ethnic survey requirements by the use of an anonymous questionnaire. For such institutions, it would be impossible, for valid and lawful reasons, to comply with State agency requests (following funding) for general information on student performance, by race.

4) Colleges have varying degrees of capability to search student master files, with or without sophisticated hardware, to provide answers to unanticipated questions, with a lead time of less than two months.

If these conditions sound familiar, they are exactly where every EOPS college found itself in the summer of 1970 when attempting to respond to many important research questions from the Coordinating Council, but without adequate lead time or capability to respond. As important and reasonable as the questions were to a researcher, the impossibility of providing answers, despite good intent, put some of the colleges in the position of appearing to have no interest in evaluation, or, worse, to wish to avoid evaluation.

As we all know, the Chancellor's staff welcomed an open discussion of the issues of evaluation, and Mr. Jerry Nutter spent some time with the CJCA Committee on Research and Development discussing the needs and the problems of evaluation of EOPS. When the evaluation request came from the Chancellor's Office, it contained the following items:

a) Total number of EOPS served.
b) Mean g.p.a. for Spring, 1970 for EOPS students: for Summer, 1970.
c) Mean standardized test scores for EOPS vs total institution, if available.
d) Request for campus studies evaluating EOPS at local level.
e) Request for program evaluation by objectives stated in project.

In February, 1971, the evaluation was presented to the Board of Governors. The report showed that "the average retention rate for EOPS students was 85%; mean grade point average was 2.27; average cost for students specifically identified as EOPS students was $324." The report was appropriately complete and general, containing no comparisons of programs on an individual basis. It showed that the major allocations went to direct grants (42%), and tutoring (11%).

There was, for obvious and important reasons, a great deal of activity among community college researchers in the area of evaluation of programs for low income and minority students, as there has been for the past several years.

Ben Gold, who has been reporting on the effectiveness of programs for students with special needs for nearly ten years, was again a leader in the field in 1970-71. Reporting on the persistence and performance of financial aid recipients in 1969-70 (Gold, December, 1970), Gold concluded:

1) Students obtaining the $400 grant, students working as tutoring aides or counseling aides, and students receiving nursing loans stayed through the semester at a rate significantly above that of the overall student body estimate. Students working under work study or as community aides showed generally higher dropout rates.

2) No significant differences in dropout rates among various ethnic backgrounds or between sexes is apparent.

3) Students receiving aid were generally above the "all college" estimates as measures of academic performance. About 19% of the aid recipients were "on probation" compared to the all-college estimate of 25%. G.P.A. for the semester of aid receipt was 2.47 for aid recipients, compared with the "all college" estimate of 2.17. (Gold, December 1970, p. 20)

The impact of tutorial services was reported from San Jose City College (Moreno, n.d.) and Santa Barbara City College (MacMillan, June 29, 1970) at SBCC, 58.53% of the non-tutored students withdrew from a remedial English course, as compared with none of the tutored students: g.p.a. for the tutored group was 2.62, as compared with 2.64 for the non-tutored students. While such dramatic findings on persistence may have occurred as much by historical accident as anything else, there is a clear and measurable impact of tutoring services on the persistence and performance of low income and minority students.

Gold (September, 1969) has shown that other forms of peer assistance have value for EOPS students, or students with similar characteristics. Gold concluded that "student counselors clearly had an effect on their counselee's staying in school throughout their first semester and also tended to improve their academic performance. Neither of these effect is apparent when counseling is continued throughout the students' second semester in college." (Gold, September, 1969.)

There were several reports of programs combining the resources of various state and federal sources, particularly the Neighborhood Youth Corps program. In a review of the program at Moorpark College (September, 1968), it was reported that 75 NYC students achieved a mean g.p.a. of 2.17 and a faculty and student response that was "overwhelmingly" supportive. At DeAnza College, Rios (December, 1970) reported a 2.37 average for 63 NYC students completing an aggregate of 431½ units of credit in a summer program.. There was 85 percent persistence in the program. LeBlanc (September, 1970) reported almost identical results for a group of 32 NYC students, including 7 high school juniors, at Santa Barbara City College.

There were other studies recently reported. Verifying earlier studies from LACC on the value of "block" programs for students with special needs, Heinkel reported on the "general studies program" at San Diego City College. The program consisted of four courses: career planning, techniques of study, basic English and reading improvement. Heinkel concluded that "completion of the General Studies Program encouraged males and minority students to re-enroll for a second semester . . . minority students who enrolled in the General Studies Program dropped fewer units for the first semester than minority students who did not enroll in the General Studies Program." (Heinkel, 1970).

The last year was a busy one for the evaluation and visibility of programs for students with special needs. Nationally, Dorothy Knoell published People Who Need College (Knoell, 1970), and the American Association of Junior Colleges published a collection of articles describing Programs for People Who Need College (AAJC, 1970). Helen Astin published Educational Progress of Disadvantaged Students (Washington, D. C., University

Research Corporation, 1970), and in California the Chancellor's Office brought out A New Life Style for California Community Colleges. (BOG, 1970)

The point is this: there is no more visible nor important focus for the efforts of the research community than the evaluation of programs for students with special needs. 1970-71 has been a period of exceptional activity, essentially representing the culmination of several years both of research and of legislation to expand the concept of the open door to new dimensions. It is ironic that there continues to be a resistance to providing full funding for such programs, even in spite of what appears to be the incontrovertible evidence of the effectiveness of a variety of services and programs. It is a sad comment on the times that the Governor's budget in California contains an allocation for EOPS to community colleges below the level of 1970-71. At the same time, it is to the great credit of the research community at our level that we have attempted to provide the best evidence possible in support of the programs we have found to be effective.

Community Surveys

It is no new knowledge to Asilomar Conference participants that the San Mateo District and the San Jose District had some selections this year. If anyone lived in either district, or talked to Paul Preising or Bill Wenrich between the first of the year and April, there would have been no question what was going on, since one of the research tasks undertaken in each district was a survey of community opinion regarding the colleges and their programs and services. The community survey has been done in the past by researchers known to the Asilomar conference: Virginia Murdoff did one of the first in Napa several years ago following the summer research institute at UC Berkeley. In general, the responses and assessments of community opinion have remained relatively constant, and some of the results may be of interest to us state wide.

On the issue of contact with the College, Wenrich (June 4, 1970) reported: "Half of the respondents said they had been on the College of San Mateo campus during the past two years, but less than one-fifth for educational programs or courses." (One is led to speculate on the amount of heavy petting taking place on that hill!) "15.9% said that someone in their family was currently enrolled as a student at the College . . over 42 percent that one of their close friends or neighbors had been enrolled in a CSM program within the past two years." In Preising's study (June, 1970), only 14.5% of the registered voters felt they knew quite a bit about San Jose City College while 84.4% indicated they did not know very much or declined to respond to the question (1%)." Further, "the majority of registered voters (53.6%) indicated they received no benefits from San Jose City College." Of those who benefited, 22.8% cited benefits from regular evening classes; 19.4% from regular day class attendance; 17.9% attendance at lectures, concerts, etc.; and 11.2% athletic events.

Voters in both districts were apparently abysmally ignorant of many aspects of the community college phenomenon in their backyards. Wenrich reported the following distribution of "correct responses" to four key questions about College of San Mateo operations and services: (Wenrich, June, 1970, p.6)

Question	Answer	% Respondents Answering Correctly
As far as you know, what are the admissions requirements at the College of San Mateo?	18 year or over and residence in San Mateo County	19.6%
What percent of the College of San Mateo budget would you say is paid for directly by taxpayers in the county?	70-79%	5.3%
How is the Board which governs the College of San Mateo selected?	Elected by the people of the District (County)	29.5%

Question	Answer	% Respondents Answering Correctly
Like many colleges, the College of San Mateo offers evening courses for people who can only come in the evening or prefer to come in the evening. Would you say that more people come in the day, during the evening, or about the same?	During the evening	18.9%

Wenrich also noted that 46.9% of his respondents had no correct answer to any of the four questions above. In Preising's study, "almost one third (30.4%) of the registered voters of the San Jose Junior College District either declined to state and/or more likely, do not know they reside in the San Jose Junior College District." (June, 1970) The opinions of registered voters seemed to be generally supportive of community college education, even though knowledge about the specific colleges was not overwhelmingly accurate or pervasive in either sample. Preising, for example, reported that "53% of the respondents with children indicated that their children would attend or probably would attend a junior college." When asked about "concerns" among the constituents, Wenrich's sample reported (41%) student unrest to be the major concern, and minority issues (7.5%) to be the next most prevalent concern.

One aspect of Preising's survey was to assess the probability of a "yes" vote on the district tax override election. Although there may be little carry-over from one district to another, the research community may be interested in the two profiles of potential "yes" and potential "no" voters in the San Jose study. Registered voters who could be expected to vote definitely or probably for the tax override in San Jose, according to Preising's profile were persons who: (1) lived in households of two or more people; (2) were registered Democrat rather than Republican; (3) had 12 or more years of formal education; (4) were under fifty years of age; (5) were owners/buyers of homes rather than renters; (6) earn over $15,000 of family income; (8) are Mexican American.

The profile from the same sample who could be expected to vote probably or definitely against the tax override were persons who: (1) had two or fewer persons per household; (2) were registered Republican rather than Democrat; (3) were over fifty years of age; (4) were owner/buyers rather than renters; (5) had less than 16 years of formal education; (6) were male rather than female; (7) were either Caucasian or Oriental.

In an entirely different kind of study, but one which deserves mention because of the cooperative nature of the venture, the County of Santa Clara Planning Department worked with Paul Preising and a number of the community colleges in the area to formulate an enrollment projection for all of the junior colleges in that county. The interest and responsiveness of the Santa Clara County Planning Department is to be commended as a model of cooperation which many of us could cite to build a case for similar studies in our own areas. One key element that makes such a study attractive at this juncture in history is the availability, from the Census Service Facility at the Institute for Intergovernmental Relations at the University

of California, Berkeley (Richard Kimball), of complete print-out data by enumeration district from the 1970 census. In Santa Barbara County, the college and several county agencies are dividing costs to make these print-outs and the census tapes available for general planning use among all social service agencies in the county.

The area of community survey research is one which is still not thoroughly accepted as a regular function of the research office, except as a service for an impending tax or bond election. The effectiveness of such data in the planning process and strategy development for passing financial measures can probably be reflected by what happened in the two districts reporting the surveys: Lions - 1; Christians - 1. That the data are of value in planning for more responsive programs is probably accurate; that there is a need for a far better conceived program of community information is probably accurate; that the only time it might be useful to assess community opinion is during the strategy mapping for financial measures is probably inaccurate.

The two studies should be examined for methodological considerations and survey research procedures as well as for the data they contained. Both studies were developed on a survey sampling procedure which ought to be used more frequently by all of us in research, as opposed to going for the total sample on everything we attempt. Additionally, the CSM survey was conducted as an adjunct to one of the classes offered by the college, and the actual field researchers were students, who probably benefited as much as the college from the experience.

Conclusion

The review of California Community College Research has shown the interests of the practitioners to be diverse, and the range of subjects of their reports to be extensive. It is obvious that the field will become increasingly concerned with issues relating to cost analysis; that concerns for program evaluation, particularly EOPS programs will continue to occupy much of the attention of the field; that instructional strategies and methods will become more visible in the field during the next year or two; that the major attention given to the dropout over the last two years is likely to be diverted to other areas in the coming years.

As if in anticipation of the Asilomar Conference for 1971, Caro's paper in the Review of Educational Research puts the field in context in the clearest possible way:

> If, however, evaluative research is to make its full contribution, substantial changes must be made in society's overall approach to social programming. Legislators and other public officials, reflecting widespread public concern, must significantly raise their demands for the effectiveness and efficiency of programs. In addition, they must learn to focus more on program goals so that they can assume a more experimental attitude toward specific programming strategies. Such fundamental changes in orientation toward social programming would lead to greatly expanded interest in evaluative research. If there were a more serious emphasis on performance standards and on the search for more effective program approaches, evaluative researchers would be more often able to obtain political and administrative support needed to employ experimental designs. (Caro, 1971, p. 111)

The frustrations of the research community have largely centered on the feeling that the contributions of research to the decision-making process on most campuses has been minimal, and that, in too many cases, the "demands for the effectivness and efficiency of programs" have come from the research office in terms that have not resembled the requirements for compliance with various funding allocations at the state and federal levels. Thus, it has been too easy to "qualify for funding" or to "bring additional resources to the district" without causing either the district or the research office to raise hard enough questions about resulting program effectiveness or efficiency. That the research officer is very likely to have a major role in the development of applications for funding for various federal and state projects is all too well known by the participants in the Asilomar conference: for most of us, the light of day is a rare vision between September 15 and April 15, and it is getting worse. This common concern of the practitioners in the field with funding, and the need for harder questions to be raised about the consequences of funding really provides a challenge for the field to bring the two tasks

into closer harmony, if indeed the two tasks are going to be performed by the same office in many districts, as it appears they are.

It would appear that several specific tasks for the coming year might be raised out of the review of the activities of the field during the last year.

1. It would appear that there is a need to bring the services and concerns of the field more visibly to the attention of the Chancellor's Office for the California Community Colleges.

Certainly there are system-wide concerns and questions which call for responses in the form of evaluative or descriptive research to be given to the Board of Governors, the Coordinating Council, the Legislature, or the federal government. The experience of the field last year, particularly in the discussions relating to the design and content of the evaluation of Extended Opportunity Programs and Services suggests that the field is both interested and willing to work in close harmony with the Chancellor's staff to provide consultation from the field on a variety of projects of concern state wide.

2. It would appear that there should be a review of the need for a research role attendant to the concerns of the Primary Standing Committees of the California Junior College Association.

Perhaps it is the case that the Committee on Research and Development could be of greater service to CJCA if its members were more active on other committees, or if the information and evaluation concerns of the other committees were more clearly articulated to the R and D Committee. Thus, for example, Paul Preising has been working with the Committee on the Disadvantaged to design a project for the evaluation of EOPS Projects, and the position of the Committee on the Evaluation of Coordinated Instructional Systems was articulated last Fall at a conference on the Committee on Instruction. There are likely to be a number of concerns and needs expressed which, with the assistance or service of the research community, could be translated into meaningful projects that would benefit the field.

3. It would appear that there should be a review of the need for a research role attendant to the concerns of the Chancellor's Technical Advisory Committees.

As in the case of the Standing Committees of CJCA, there is also a proper and appropriate role for research to be of service to the Chancellor's Technical Advisory Commitees, if the needs for descriptive or evaluative research were articulated to the field. Again, an appropriate question might be asked whether the members of the Committee might be of greater service to the field if they were serving on TAC functions instead of in the Committee itself.

4. There appears to be the need for a review of the relationship between the CJCA Committees and the Chancellor's Technical Advisory Committees.

It may be that a first order of business is for those who are examining the need for descriptive or evaluative research state wide in the various committees of CJCA and TAC to exchange a description or statement of needs and concerns among themselves, with a particular emphasis on formulating research questions for the field.

5. There appears to be the need for a much more visible exchange of the work done by California's community college researchers, both among themselves and with the field as a whole.

The CJCA Board earlier this year felt that it would be unwise to commit resources to fund a research position at the CJCA state level, but agreed that periodic reviews of literature would be made available to the field. Perhaps this review will serve as a first attempt in that direction, and perhaps there will be improved state wide distribution of research findings by CJCA.

BIBLIOGRAPHY

American Association of Junior Colleges. Programs for People Who Need College. (Washington, D. C., A.A.J.C., 1970)

Astin, Helen. Educational Progress of Disadvantaged Students. (Washington, D. C., Human Services Press, 1970)

Bannister, Richard. "Case Studies in Multi-Media Instruction". (U.C.L.A.: ERIC Clearinghouse Topical Paper Number 13, October, 1970)

Bloom, Benjamin S. "Learning for Mastery", Evaluation Comment. (U.C.L.A., C.S.E., May, 1968)

_____, J. Thomas Hastings and George F. Madaus. Handbook on Formative and Summative Evaluation of Student Learning. (New York, McGraw-Hill, 1971)

Brightman, Richard. "Computer Assisted Learning to Teach Computer Operations" (C.C.C. District, November, 1970)

_____. "Holding Power" (Coast Community College District, February, 1970)

_____. Project CALCOP Final Report. (Coast Community College District, December, 1970)

_____. Project Follow-Through Progress Report III. (Coast Community College District, June, 1970)

_____. "They Didn't Come Back". (Coast Community College District, May, 1969)

California State Department of Education. Planning, Programming, Budgeting Manual for State of California School Districts. (Sacramento, 1970)

Caro, Francis G. "Issues in the Evaluation of Social Programs", Review of Educational Research. (April, 1971), pp. 87-114.

Committee on Educational Finance. Planning for Educational Development in a Planning Programming, Budgeting System. (Washington, D. C., NEA, 1968)

Cross, K. Patricia. The Junior College Student: A Research Description. (Princeton, Educational Testing Service, 1968)

Dietz, Merle A. "Grading Policies in California Community Colleges". (Los Angeles Harbor College, Match 23, 1971)

Ewing, Donald. "Evaluation of the Academic Standards of the Foothill Community College District". (Educational Services, De Anza College, December 16, 1970)

Gold, Ben K. "Academic Performance of Financial Aid Recipients, 1969-70". (L.A.C.C., Research Study 70-12, December, 1970)

_____. "Academic Performance of L.A.C.C. Transfers Entering the University of California During the Academic Year 1969-1970 ". (L.A.C.C., Research Study 69-13, December, 1970)

_____. "Follow-up Study of the 1968 Graduating Class". (L.A.C.C., Research Study 69-8, June, 1969)

_____. "The 1968-69 Student Counselor Assistant Program: Persistence and Scholarship Statistics". (L.A.C.C., Research Study 69-9, September, 1969)

_____. "The School and College Ability Test (SCAT) and L.A.C.C. Entering Students 1958-1969". (L.A.C.C., Research Study 70-1, January, 1970)

Heinkel, Otto. A Cost Accounting Model to Assess Actual Costs of Vocational and Non-Vocational Courses. (San Diego Community Colleges, July, 1970)

_____. "Evaluation of a General Studies Program for the Potentially Low Academic Achiever in California Junior Colleges" (San Diego Community Colleges, 1970)

Hinton, John. "Audio Tutorial Practices in California Community Colleges". (Diablo Valley College, 1970)

Hoyt, Donald and Leo Munday, Academic Prescription and Prediction in Junior Colleges. (Iowa City, ACT, February, 1966)

Knoell, Dorothy. People Who Need College. (Washington, D. C., AAJC, 1970)

LeBlanc, Jackman L. "The Summer Readiness Program: Neighborhood Youth Corps at SBCC". (SBCC, Research Office Memo 17-70, September, 1970)

MacMillan, Thomas F. "A Closer Look at Our Transfers: A Detailed Analysis of Grade Point Differentials for Students Who Transferred From SBCC, 1968-1969" (SBCC, Research Office Memo 16-70, September, 1970)

MacMillan, Thomas F. "A Comparison of Grading Practices, 1968-1970" (SBCC, Research Office Memo 3-71, February 18, 1971)

_____. "A Comparison of SCAT Scores: 1968 and 1970 Testing" (SBCC, Research Office Memo 19-70, October 16, 1970)

_____. "A Cost Analysis of the Day Credit Program at Santa Barbara City College - Fall Semester, 1970" (SBCC, Research Office Memo 1-71, March, 1971)

_____. "A Follow-up of Students Who Discontinued Enrollment" (Sacramento: CCHE, June, 1970)

_____. "An Analysis of the Effectiveness of English 42: Performance and Persistence Among Low Achieving Students" (SBCC, Research Office Memo 13-70, June 29, 1970)

_____. Norcal Project Phase II Final Report. (SBCC, June, 1970)

Medsker, Leland. The Junior College: Progress and Prospect. (New York: McGraw-Hill, 1960)

Monroe, Bruce. "Report on Multi-Media System" (Mt. San Jacinto College, May 31, 1967)

Moorpark College. "NYC Goes to College" (Moorpark, September, 1968)

Moreno, Armando. "An Experience: The Cooperative Learning Program" (San Jose City College, n. d.)

Olmstead, Joseph. Theory and State of the Art of Small-Group Methods of Instruction. (Alexandria, Virginia, Human Resources Research Organization, March, 1970)

Oettinger, Anthony G. Run Computer, Run. (Cambridge, Harvard University Press, 1969)

Preising, Paul. "Survey Results of Registered Voters of the San Jose Community College District" (SJJCD, Research and Development 70-4, June, 1970)

Purser, Timothy D. A Study on the Abolishment of Academic Dismissal and Failing Grades. (Cleveland: Cuyahoga Community College, September 25, 1970)

Rios, Richard J. "Neighborhood Youth Corps Evaluation: 1970 Summer Program" (DeAnza College, December 1, 1970)

Sheldon, M. Stephen. "Entrance and Placement Testing for the Junior College", Junior College Research Review. (UCLA, ERIC Clearinghouse, December, 1970)

W.I.C.H.E. The Outputs of Higher Education. (Boulder, Colorado, July, 1970)

Watenbarger, James, Bob N. Cage, and L. H. Arney.. The Community Junior College: Target Population, Program Costs and Cost Differentials. (University of Florida, National Educational Finance Project, Special Study No. 6, June, 1970)

Wenrich, J. William and D. Bruce Cameron. "Contact With a Constituency: CSM Community Survey" (CSM Research Report 1970-5, June 4, 1970)