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ABSTRACT

A review of the University of Alaska's operating and capital budget submission for fiscal year 1986 is presented, directed at the educational and programmatic impact of the budget request. Five recommendations endorsed by the Alaska Commission on Postsecondary Education are analyzed. Additional contents include: summary information for the University of Alaska on degrees offered and awarded from 1978 to 1984 for each unit; a profile of students attending the university system according to age, part-time and full-time status, and ethnicity; and forecasts of general fund unrestricted revenues. The recommendations are as follows: (1) the university should continue its review of degree programs that may be underproductive; (2) the university should explore strategies for increasing productivity at all university campus centers; (3) the university should design and implement a program to assess knowledge, intellectual capacities, and skills developed in students through academic and cocurricular programs; (4) the university should consider establishing a weekend degree program, since there are a number of older part-time students; and (5) research should be reviewed as it relates to state needs. Appended are definitions of college programs. (SW)

REVIEW OF

THE

UNIVERSITY OF ALASKA

FY 1986

OPERATING AND CAPITAL BUDGETS

November 30, 1984

Document No. 85-3

ALASKA COMMISSION
ON POSTSECONDARY EDUCATION

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EXECUTIVE SUMMARY

At its meeting on November 30, 1984 the Alaska Commission on Postsecondary Education endorsed five recommendations listed on the following page. These recommendations were considered in light of the forecasted steady decline in real dollars of general fund unrestricted revenues.

The University of Alaska is faced with the challenge of maintaining quality while serving a growing constituency in an era of constricting revenues. It is the Commission's obligation to offer for consideration various recommendations that provide for a more efficient use of financial resources. Also, it is encumbent upon the Commission to suggest recommendations that serve to protect, and indeed enhance, the quality of the services provided by the University.

The recommendations do not speak directly to the Operating and Capital Budget Request. Rather the recommendations suggest strategies for increasing efficiencies and/or enhancing quality.

Following are the recommendations submitted by the Commission:

Recommendation 1: THE UNIVERSITY SHOULD CONTINUE ITS RIGOROUS REVIEW OF THOSE DEGREE PROGRAMS WHICH MAY BE UNDERPRODUCTIVE.

Recommendation 2: THE UNIVERSITY SHOULD CONTINUE TO EXPLORE VARIOUS STRATEGIES FOR INCREASING PRODUCTIVITY AT ALL UNIVERSITY CENTERS.

Recommendation 3: THE UNIVERSITY SHOULD DESIGN AND IMPLEMENT A SYSTEMATIC PROGRAM TO ASSESS THE KNOWLEDGE, INTELLECTUAL CAPACITIES, AND SKILLS DEVELOPED IN STUDENTS THROUGH ACADEMIC AND CO-CURRICULAR PROGRAMS.

Recommendation 4: BECAUSE OF THE SIGNIFICANT NUMBER OF OLDER PART-TIME STUDENTS THE UNIVERSITY SHOULD CONSIDER ESTABLISHING A WEEKEND DEGREE PROGRAM.

Recommendation 5: AS THE PROPORTION OF STATE GENERAL FUND INCREASES FOR ORGANIZED RESEARCH AT THE UNIVERSITY OF ALASKA, THE UNIVERSITY SHOULD CONTINUE TO REVIEW THE GOALS AND OBJECTIVES OF THE RESEARCH EFFORT AS THEY RELATE TO STATE NEEDS.

INTRODUCTION

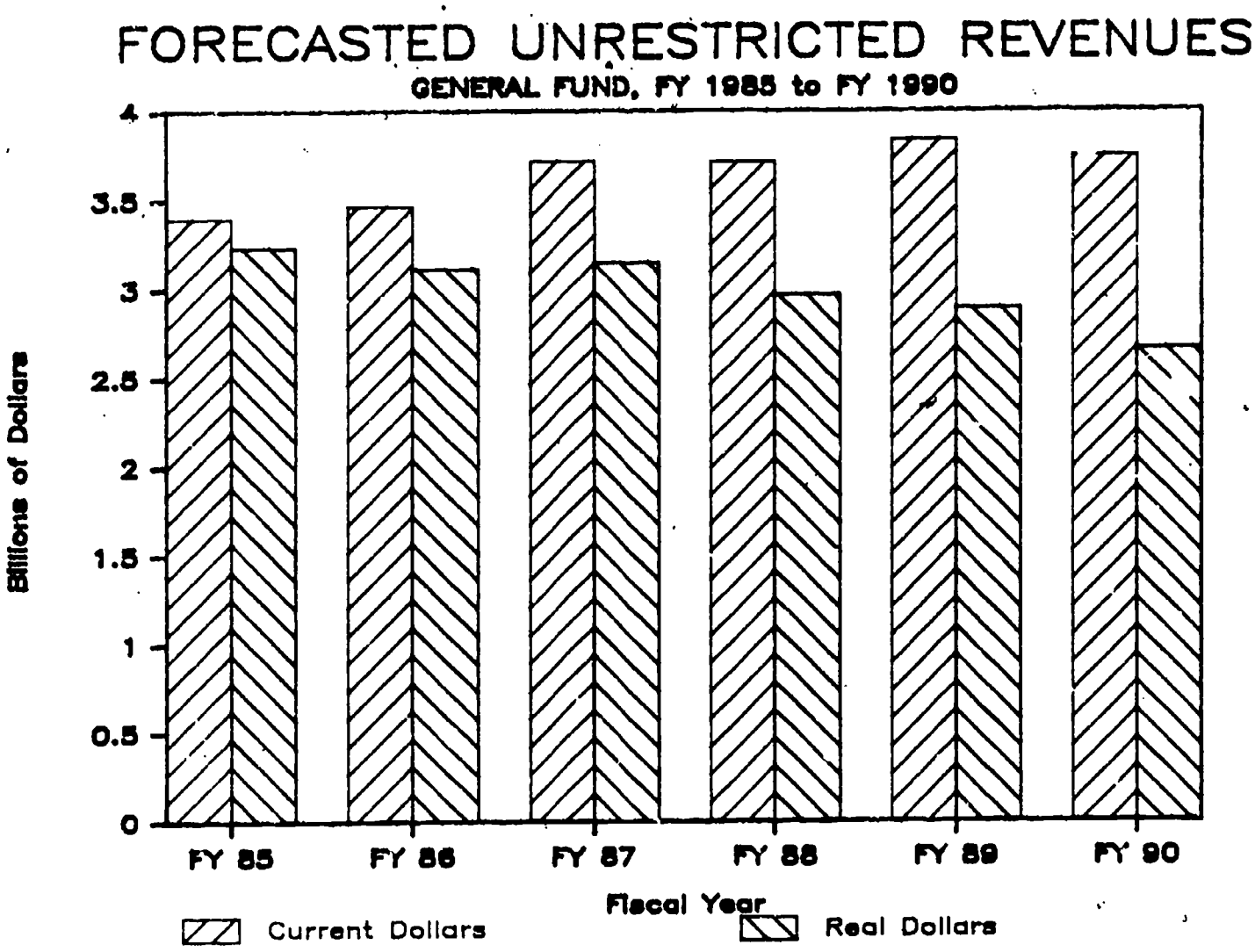
In accordance with AS 14.42.030(a)(3), the Alaska Commission on Postsecondary Education presents this review of the University of Alaska's FY 1986 Operating and Capital Budget Request. This review is directed at the educational and programmatic impact of the budget request, and it attempts to address those issues that relate specifically to the quality of the educational process and efficient allocation of resources.

At its meeting on November 30, 1984, the Alaska Commission on Postsecondary Education endorsed 5 recommendations. These recommendations, along with explanations of each, are presented in this report.

Other sections of this report include the number of degrees awarded for the last six years for each unit, a profile of students attending the University system and the most recent estimate of future state general fund unrestricted revenues.

ISSUES AND CONCERNS

The economy of the State of Alaska is at a crossroad. Although the general fund unrestricted revenues are expected to increase at a moderate rate for the next few years, the State will experience a steady decline in real dollars because of inflation. The graph below clearly illustrates the future decline of unrestricted revenues due to inflation.



Source: Department of Revenue

The challenge facing the University of Alaska is to maintain quality while serving a growing constituency in an era of constricting revenues. Since FY79 the University general fund operating budget increased from $72.1 million to $158.1 million in FY84, a 119% increase. During the same period, credit hour enrollment increased from 140,771 to 197,070, a 40% increase. It is unrealistic to assume that the University can expect to enjoy the same rate of bugetary growth in the future. It is to this dilemma that the recommendations contained here are addressed.

It is incumbent upon the Commission to offer for consideration various recommendations that provide for a more efficient use of financial resources. The Commission, however, would be derelict if it did not at the same time attempt to protect, and indeed enhance, the quality of the services provided by the University. The recommendations in this report do not speak directly to the Operating and Capital Budget Request. Rather, it is intended that the recommendations offer strategies for increasing efficiencies and/or enhancing quality.

RECOMMENDATIONS

Recommendation 1: THE UNIVERSITY SHOULD CONTINUE ITS RIGOROUS REVIEW OF THOSE DEGREE PROGRAMS WHICH MAY BE UNDERPRODUCTIVE.

In February, 1983, the Commission published Document No. 83-6, Postsecondary Certificate and Degrees in the State of Alaska. The document identified seventy-nine programs which may be underproductive. Since publication of this report, the University has added and deleted many programs. The net result is that there are less certificates and associate degrees offered, virtually no change at the bachelor's and master's level, and an additional program at the doctoral level. Also, the University has culled out numerous specialty areas or "majors" of the Associate of Arts degree offered at the community colleges. The Commission commends the effort to clarify the purpose of the associate degree.

Thirty-six academic programs (of the seventy-nine) in this recommendation are identified using varying criteria which could indicate that the program may be underproductive. The criteria are as follows:

Certificate or Degree	Program was established by:	Number of graduates over a 6-year period was less than:
Certificate	1978	5
Associate	1977	5
Bachelor's	1975	6
Master's	1977	5
Doctorate	1975	5

It should be emphasized that if a program falls below the minimum criterion, it does not necessarily mean the program is underproductive. For instance, a particular low-producing program may satisfy the needs of the State or the community for a certain kind of specialist, and it could be unwise to encourage more graduates in a limited job market. A program may provide a substantial number of service courses for another program of high productivity, and eliminating the program may serve little purpose. Moreover, particularly at the certificate and associate degree levels, there is evidence that a significant number of students find gainful employment before completing all of the course work, and thus, elect not to graduate.

These caveats notwithstanding, thirty-six degree or certificate programs were identified as falling below minimum criteria. The Commission urges that the University pay particular attention to the following programs in the coming months.

UNIVERSITY OF ALASKA, ANCHORAGE

Level: Bachelor's

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
Music Education-Elementary	0	0	0	1	0	0	1
Music Education-Secondary	0	0	0	2	0	0	2
Music Performance	0	1	0	0	1	2	4
Level: Master's							
Creative Writing	0	0	0	0	1	0	1

UNIVERSITY OF ALASKA, FAIRBANKS

Level: Bachelor's

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
Russian Studies	0	1	0	0	0	0	1
Music Education	0	0	2	0	0	0	2
Music Education-Elementary	0	0	0	0	1	1	2
Yupik Eskimo	0	1	0	2	0	1	4
Linguistics	0	0	0	1	1	1	3
Applied Physics	0	0	0	0	0	0	0
Geography & Regional Development	0	0	0	0	0	0	0

Level: Master's

Electrical Engineering	0	0	0	0	0	1	1
Mathematics	1	1	0	0	0	2	4
Physics	1	0	0	1	0	0	2
General Science	1	0	0	0	0	0	1

Level: Doctorate

Wildlife Management	0	0	0	0	2	0	2
Physics	0	0	0	0	0	0	0
Geology & Geophysics	2	0	0	0	0	1	3

UNIVERSITY OF ALASKA, JUNEAU

Level: Associate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
Power Technology	0	0	0	0	0	0	0

Level: Master's

Business Administration	0	1	1	0	0	1	3
Science Management	0	0	0	0	0	0	0

ISLANDS COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
Accounting Clerk	0	0	0	0	0	0	0
Clerk Typist	0	0	0	0	0	0	0

KETCHIKAN COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
Clerk Typist	0	0	0	0	0	0	0
Stenographer	0	0	0	0	0	0	0
Level: Associate							
Diesel Technology	1	1	0	0	0	0	2

KODIAK COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
Office Occupations	0	0	0	0	0	1	1
Home Economics	0	0	0	0	0	0	0
Level: Associate							
Office Occupations	0	1	0	0	0	0	1
Commercial Fishing	0	0	0	0	0	0	0
Seafood Processing	0	0	0	0	0	0	0

KUSKOKWIM COMMUNITY COLLEGE

Level: Associate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
Community Health Practitioner	0	0	1	0	0	1	2
Yupik Language	0	0	0	0	0	0	0

NORTHWEST COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
Business	0	0	0	0	0	0	0

TANANA VALLEY COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
Office Occupations	0	0	0	0	0	0	0
Fire Science Technology	1	0	0	0	0	0	1

Recommendation 2: THE UNIVERSITY SHOULD CONTINUE TO EXPLORE VARIOUS STRATEGIES FOR INCREASING PRODUCTIVITY AT ALL UNIVERSITY CENTERS.

There has been increasing interest in faculty productivity by various agencies within the State. One appropriate method of determining faculty productivity is to compute the student/faculty ratio for permanent full-time faculty at each campus.

Using Fall 1983 data, the student/faculty ratios for the permanent full-time faculty at each of the university centers were determined. (The student/faculty ratios of faculty at the community colleges are not included in this recommendation because a new collective bargaining agreement has just recently been ratified and contains detail on work load therein.) The University permanent full-time faculty are classified as either research faculty or non-research faculty. Research faculty are usually those faculty associated with one of the several research institutes, such as the Geophysical Institute or the Institute of Arctic Biology. Non-research faculty are those faculty whose primary task is teaching. This classification of faculty members was followed here for the determination of faculty productivity.

The following data show the student/faculty ratios for each of the university centers.

UNIVERSITY OF ALASKA, ANCHORAGE

FACULTY	NUMBER	STUDENT/FACULTY RATIO
Non-research	151	12.3 to 1
Research	5	4.8 to 1
TOTAL full-time faculty	156	12.0 to 1
FTE part-time faculty	38	11.7 to 1
GRAND TOTAL	194	11.9 to 1

UNIVERSITY OF ALASKA, FAIRBANKS

FACULTY	NUMBER	STUDENT/FACULTY RATIO
Non-research	260	9.8 to 1
Research	116	2.3 to 1
TOTAL full-time faculty	376	7.4 to 1
FTE part-time faculty	61	11.5 to 1
GRAND TOTAL	437	8.0 to 1

UNIVERSITY OF ALASKA, JUNEAU

FACULTY	NUMBER	STUDENT/FACULTY RATIO
Non-Research	51	7.7 to 1
FTE part-time faculty	43	7.4 to 1
GRAND TOTAL	94	7.6 to 1

There are essentially five interrelated factors which influence student/faculty ratios. They are: 1) size of the institution; 2) number of students in each class; 3) number of credit hours taught by each faculty member; 4) the curricular "mix" of the institution; and 5) curricular or program proliferation. Following is a brief explanation of each of these factors.

SIZE OF THE INSTITUTION. In general, small institutions tend to have classes with fewer students than larger institutions. Smaller institutions often are unable to enroll a "critical mass" of students relative to those course offerings that are essential if students are to graduate in a reasonable amount of time. Regardless of the size of a college or university, it must offer a basic core of courses which encompasses the traditional liberal arts, and smaller institutions often do not enjoy the "economy of scale" that benefits a larger institution. It should be noted, however, that once an institution reaches a critical mass, the effects of institutional size are minimal.

NUMBER OF STUDENTS IN EACH CLASS. This factor is self evident - the more students enrolled in a class, the higher the student/faculty ratio.

NUMBER OF CREDITS TAUGHT BY EACH FACULTY MEMBER. All things being equal, the more classes a faculty member teaches the higher the ratio of student to faculty member.

THE CURRICULAR "MIX" OF THE INSTITUTION. The curricular "mix" is a direct result of the mission of the institution. This factor relates to the proportion of the programs and courses, both at the undergraduate and graduate level, which are lecture intensive, (which allows for the institution to accommodate large classes) and classes which are laboratory intensive (which demands small class sizes). Two institutions enrolling the same number of FTE students could have significantly different student/faculty ratios if they have different missions and therefore, a different proportion of course offerings.

CURRICULAR OR PROGRAM PROLIFERATION. This influence upon student/faculty ratio speaks to the number of programs offered by an institution relative to the size of the student body. Holding the number of students constant, an increase in the number of programs will tend to lower the student/faculty ratio because of the necessity of offering additional courses, particularly low-enrollment upper division courses.

What strategies are useful for increasing student/faculty ratios and therefore, increasing faculty productivity? Perhaps the most obvious strategy is to increase class size. However, several factors make this strategy somewhat difficult to implement. First, the physical size of rooms obviously limits the number of students enrolled in the class. Second, many classes, because of special equipment, demand a limited enrollment. Third, although the research is mixed, pedagogically it is beneficial to refrain from offering many very large classes or sections. This generalization, however, is dependent greatly upon the subject matter being taught, the course level, and the level of the students in the class. Fourth, providing required courses so that students are assured completion of graduation requirements within a reasonable time period necessitates that certain courses be offered in spite of their potential low enrollment.

Guarding against curricular or program proliferation is a very appropriate means for enhancing faculty productivity. Eliminating programs that are peripheral to the institutional mission or which do not enjoy student popularity will necessarily reduce to a minimum those low-enrollment upper division courses that tend to reduce faculty

productivity. Caution should be exercised, however, concerning the elimination of programs that are strongly related to other programs offered by the institution. Also, once a program is deleted, it may be very difficult to reinstate it, if needed, at a later date.

Another way for increasing faculty productivity is to increase the credit hours taught by each faculty member. Consideration of this strategy requires thoughtful deliberation be exercised concerning the relationship between teaching, research, and public service - the traditional mission of the University. In general, the non-research faculty at the university centers have a nine credit-hour teaching assignment per semester, and thus, an eighteen credit-hour teaching assignment per academic year. This compares to a twenty-seven credit-hour assignment per academic year for community college teachers.

There is some concern that the work load for faculty members may be low in relation to other comparable institutions. The Commission has used the Information Services of The National Center for Higher Education Management Systems (NCHEMS) to identify peer institutions so that appropriate comparisons can be made. Some of the characteristics that were used to match the university centers with comparable institutions were percentage of Bachelor's degrees, percentage of Master's degrees, percentage of Doctoral degrees, and percentage of degrees in Engineering, Science, Business, and Education. Other criteria used included research expenditures and total FTE students. No attempt was made to identify peer institutions with the University of Alaska, Juneau because of the developmental nature of that institution.

The reader should be aware that no institution compares perfectly with another. Rather, a judgement must be made concerning which and how many critical characteristics can be matched between two institutions.

The following pages contain lists of peer institutions for the University of Alaska, Anchorage and the University of Alaska, Fairbanks showing several institutional characteristics and student/faculty ratios.

UNIVERSITY OF ALASKA, FAIRBANKS AND PEER INSTITUTIONS

	FTE Students	% Part-Time	% BA	% MA	% PhD	% 1st Prof	% Sci & Eng Deg	% Sci & Eng Grad Deg	% MA Bus Deg	% Bus Deg	% MA Educ Deg	% Educ Deg	Research Expenditures	Student/ Faculty Ratio
*UA-Fairbanks	3,496	33.9	65.9	23.5	1.5	0.0	15.8	1.0	2.6	19.4	7.9	15.0	$42,628,768	8.0 to 1
*U of Tulsa	4,893	31.2	62.2	19.8	2.0	16.0	21.6	4.6	7.7	23.8	5.5	13.6	$ 2,093,615	14.6 to 1
+Utah State U	9,149	53.0	67.1	22.9	3.5	0.0	29.8	9.7	3.2	14.0	7.5	22.8	$28,453,000	19.0 to 1
+Lehigh U-PA	5,368	20.9	69.0	28.3	2.7	0.0	48.0	9.9	9.3	27.0	3.4	9.3	$10,207,172	13.6 to 1
+U of Idaho	7,759	22.2	71.8	19.7	2.8	5.7	39.0	10.1	1.2	12.5	6.4	15.8	$16,811,288	18.5 to 1
+U of Rhode Is.	11,087	32.8	77.1	19.1	2.6	0.0	29.5	6.4	3.3	17.6	2.7	6.7	$20,277,004	16.5 to 1
+Clemson U-SC	11,050	12.7	76.8	21.4	1.4	0.0	41.4	8.9	1.8	19.9	8.9	16.3	$21,052,216	16.5 to 1
+U of CA-Riverside	4,577	7.3	67.3	22.9	9.9	0.0	36.2	14.1	6.5	12.8	2.9	3.5	$29,003,803	9.8 to 1

NCHEMS CLASSIFICATIONS

*Comprehensive Institutions - these institutions are characterized by diverse post-baccalaureate programs, but do not engage in significant doctoral-level education. Specifically, comprehensive institutions include institutions in which the number of doctoral-level degrees granted is less than 30 or in which fewer than 3 doctoral-level programs are offered. In addition, these institutions must grant a minimum of 30 post-baccalaureate degrees and either grant degrees in 3 or more post-baccalaureate programs or, alternatively, have an inter-disciplinary program at the post-baccalaureate level.

+Doctoral-Granting Research Institutions without a Medical School - these are institutions characterized by significant level in breadth of activity in and commitment to doctoral-level education as measured by the number of doctorate recipients and the diversity in doctoral-level program offerings. Included in this category are those institutions which grant a minimum of 30 doctoral-level degrees. These degrees must be granted in 3 or more doctoral-level program areas.

UNIVERSITY OF ALASKA, ANCHORAGE AND PEER INSTITUTIONS

	FTE Students	% Part-time	% BA	% MA	% PhD	% 1st Prof	% Eng Deg	% MA Sci & Eng Grad	% MA Bus Deg	% Bus Deg	% MA Educ Deg	% Educ Deg	Research Expenditures	Student/ Faculty Ratio
*UA-Anchorage	2,132	57.6	76.0	24.0	0.0	0.0	2.6	2.6	2.6	18.4	19.6	32.7	$1,020,544	11.9 to 1
*U of Colorado Col. Springs	3,565	49.1	71.7	28.3	0.0	0.0	4.9	0.3	6.6	22.4	14.3	21.7	328,370	18.9 to 1
*Saginaw Valley State Col-Mich	2,900	51.6	72.9	27.1	0.0	0.0	4.7	0.0	4.5	23.4	22.4	30.1	83,084	16.0 to 1
*Oakland U-Mich	8,676	41.5	70.6	29.0	0.4	0.0	6.8	2.1	2.6	16.3	22.1	27.1	2,152,384	21.9 to 1
*U of Tenn at Chattanooga	5,884	31.9	77.4	22.6	0.0	0.0	7.0	0.9	4.4	22.9	14.0	26.3	743,404	17.9 to 1
*Purdue U Calumet, IN	4,853	59.2	46.7	18.1	0.0	0.0	14.2	1.9	1.7	11.1	14.6	19.3	91,176	18.8 to 1
*U of Nevada Las Vegas	7,923	49.6	67.3	23.2	0.9	0.0	1.6	0.6	3.7	35.4	14.3	22.6	1,816,579	18.0 to 1
*Western Washington U	8,932	8.9	86.3	13.7	0.0	0.0	2.8	1.4	0.8	15.9	7.3	19.2	579,837	19.4 to 1

NCHEMS CLASSIFICATIONS

*Comprehensive Institutions - these institutions are characterized by diverse post-baccalaureate programs, but do not engage in significant doctoral-level education. Specifically, comprehensive institutions include institutions in which the number of doctoral-level degrees granted is less than 30 or in which fewer than 3 doctoral-level programs are offered. In addition, these institutions must grant a minimum of 30 post-baccalaureate degrees and either grant degrees in 3 or more post-baccalaureate programs or, alternatively, have an inter-disciplinary program at the post-baccalaureate level.

+Doctoral-Granting Research Institutions without a Medical School - these are institutions characterized by significant level in breadth of activity in and commitment to doctoral-level education as measured by the number of doctorate recipients and the diversity in doctoral-level program offerings. Included in this category are those institutions which grant a minimum of 30 doctoral-level degrees. These degrees must be granted in 3 or more doctoral-level program areas.

Recommendation 3: THE UNIVERSITY SHOULD DESIGN AND IMPLEMENT A SYSTEMATIC PROGRAM TO ASSESS THE KNOWLEDGE, INTELLECTUAL CAPACITIES, AND SKILLS DEVELOPED IN STUDENTS THROUGH ACADEMIC AND CO-CURRICULAR PROGRAMS.

In the review of the Unversity of Alaska Operating and Capital Budgets for FY84, the Commission called for the University to develop performance criteria for the assessment of quality. It is appropriate again to strongly urge the University to develop an assessment program to measure the impact of the institution's curriculum and instruction on student learning.

A panel named "The Study Group On The Conditions In Excellence In American Education" was established by the National Institute of Education and was charged with the task of subjecting higher education in the nation to the same kind of analysis and scrutiny that has been given to elementary and secondary education during the past few years. In its report, entitled Involvement in Learning: Realizing the Potential of American Higher Education, the panel of distinguished educators urged that institutions should be accountable for stating their expectations and standards and also assessing the degree to which those ends have been met. The following is a brief, albeit eloquent, statement from the report that summarizes the essence of this recommendation.

> Excellence in higher education has traditionally been judged in terms of institutional resources, using measures such as endowments and expenditures, the breadth and depth of curricular offerings, the intellectual attainments of faculty, the test scores of entering students, and selectivity in admissions. Both educators and the public at large have valued these institutional characteristics because they appear to facilitate educational growth. And, indeed, some of them, such as the depth of the curriculum and the adequacy of

libraries and laboratories, have the potential to influence student learning in very direct ways.

But there are two significant problems with these measures: (1) they are all proxies for educational excellence, and (2) they are all inputs. None of them tells us what students actually learn and how much they grow as a result of higher education. None of them tells us anything about educational outcomes. As a result, we have no way of knowing how academic institutions actually perform.

However inadequate they may be, these measures continue to be employed. They encourage institutions to focus their energies on acquiring more resources, sometime to the detriment of student learning and development. Excellence in higher education, we believe, requires:

1. That institutions of higher education produce *demonstrable improvements* in student knowledge, capacities, skills, and attitudes between entrance and graduation;
2. That these demonstrable improvements occur within *established, clearly expressed, and publicly announced and maintained standards of performance* for awarding degrees based on societal and institutional definitions of college-level academic learning; and
3. That these improvements are achieved *efficiently*, that is, that they are cost-effective in the use of student and institutional resources of time, effort, and money.

Adequate measures of educational excellence must thus be couched in terms of student outcomes--principally such academic outcomes as knowledge, intellectual capacities, and skills. Outcomes also may include other dimensions of student growth, such as self-confidence, persistence, leadership, empathy, social responsibility, and understanding of cultural and intellectual differences.

Another cogent testimony to the growing concern of measuring student outcomes is offered by Alexander Astin. In an excellent article, found in Appendix B of this report, Astin emphasizes the importance of documenting intellectual and personal growth of students through appropriate assessment procedures as a means for determining institutional excellence. The Commission stands ready to help in any way to facilitate this endeavor and to work in partnership with the University to enhance the learning process.

Recommendation 4: BECAUSE OF THE SIGNIFICANT NUMBER OF OLDER PART-TIME STUDENTS THE UNIVERSITY SHOULD CONSIDER ESTABLISHING A WEEKEND DEGREE PROGRAM.

In last year's analysis of the FY85 Operating Budget, the Commission suggested that the Unviversity consider more innovative and flexible scheduling of classes to accommodate additional students. This recommendation focuses particularly upon serving the older part-time students.

In the University of Alaska system today, approximately seven out of ten part-time students are over twenty-five years old. Indeed, over 50% of the part-time students are thirty years old or older. Without question, the University has been, and continues to be, a valuable educational resource for the mature adult learner. Thus, it would seem appropriate that the University devise curricular strategies specifically designed to accommodate the needs and interests of this important clientele. Put another way - the non-traditional learner demands a non-traditional educational response.

Enough information has been gathered from various sources about the adult learner in Alaska to offer two interrelated generalizations: (1) because of various factors, many adult learners have difficulty persisting for a full fifteen to sixteen week semester, and (2) therefore, short, intensive educational experiences are preferred by many adult learners.

The weekend degree program envisioned in this recommendation is a specific response to the mature adult learner. Several institutions in the United States have established such programs with remarkable success. Although there can be variations to the format, generally the student enrolled in the program would attend classes on alternate weekends, five to six times. A typical weekend lasts for eight hours on Saturday and four hours on Sunday, rather than the traditional fifty minute class hour offered for a full semester. Instructional strategies are adjusted to attention spans and fatigue levels.

This program strategy is quite appropriate for undergraduate general education requirements (particularly if they are interdisciplinary) and graduate work. Through a combination of independent study, individualized course work and classroom work, the student can complete a considerable number of semester hours in a short period of time. It is important to emphasize that this is not an easier way to get a degree; in fact, in several ways the demands are greater than in a traditional program. Students are asked to do extensive work outside of the classroom experience. This extra-classroom work is, in essence, the strength of the program. It allows the part-time student to adjust his or her schedule to complete course requirements.

It is not assumed that the weekend program, as described here, is a feasible concept for all of the units of the University system. However, for those units where this curricular strategy would provide an effective response to the mature adult learner, the mission stands ready to help in any way possible to implement the program.

Recommendation 5: AS THE PROPORTION OF STATE GENERAL FUND INCREASES FOR ORGANIZED RESEARCH AT THE UNIVERSITY OF ALASKA, THE UNIVERSITY SHOULD CONTINUE TO REVIEW THE GOALS AND OBJECTIVES OF THE RESEARCH EFFORT AS THEY RELATE TO STATE NEEDS.

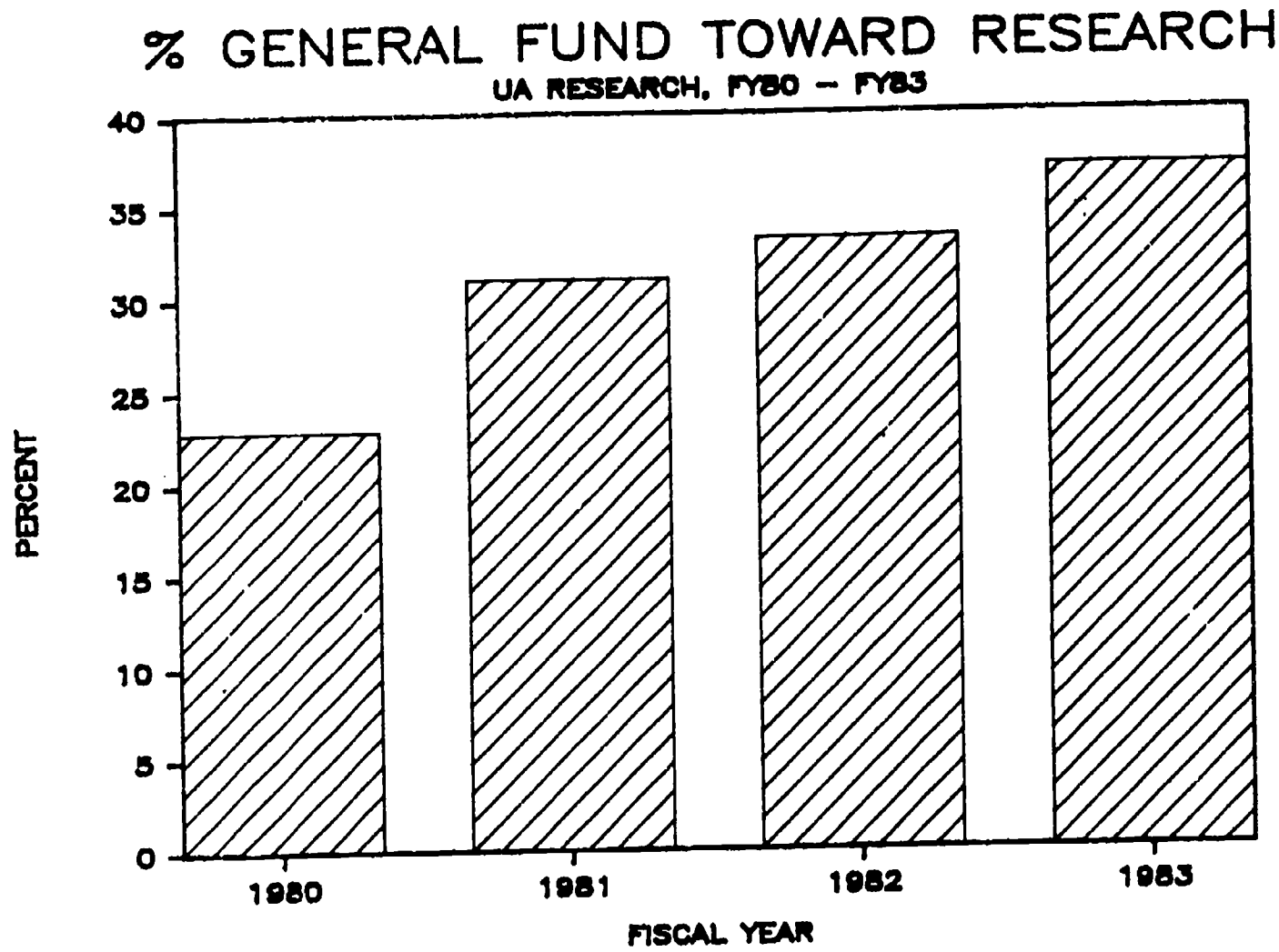
Since FY 1980, federal support for organized research has declined while state general fund support has increased. The data below show that there has been a 52 percent increase of general fund appropriations to organized research from FY 1980 to FY 1983 while there has been a 6 percent decrease in total expenditures toward organized research.

GENERAL FUND APPROPRIATIONS TO ORGANIZED RESEARCH
COMPARED TO EXPENDITURES FOR ORGANIZED RESEARCH

	FY 1980	FY 1981	FY 1982	FY 1983	% Change FY80 - FY83
GF Appropriations to Organized Research	$ 10,085,861	$ 12,036,567	$ 14,008,916	$ 15,329,700	52%
Organized Research Expenditures	44,098,602	38,694,651	42,127,753	41,332,997	(6%)
% GF Appropriation Compared to Total Expenditure	22.9%	31.1%	33.3%	37.1%	

Source: UA Financial Statistics Research Reports

Figure 1 illustrates the percentage of general fund appropriations compared to total expenditures.



Traditionally, the University has concentrated on problems and phenomenon of the Arctic and Subarctic regions. In doing so, the University is maintaining links with institutions and laboratories in several countries within tne same latitude area. Moreover, scholarly works that relate to the Pacific Rim are becoming increasingly important. The University has a distinguished record of research contributions and has acnieved both national and international recognition.

The State, however, has a legitimate proprietary interest in research activities to the extent that it contributes funding. Thus, if the proportion of state dollars dedicated to research continues to increase, it is obligatory of the University to carefully assess the mission of the research effort. This recommendation is not intended to discourage or inhibit those research contributions that continue to enhance the University's reputation beyond state boundaries. As a matter of public policy, however, it is advisable to maintain an appropriate balance of that research which benefits the citizens of Alaska and that research which is more global in nature.

The Commmission is not prepared to advise, at this time, what the appropriate balance should be. Instead, this recommendation is meant to draw attention to the issue and urges that communication be enhanced between all parties involved in making decisions concerning the research effort in the State.

DATA

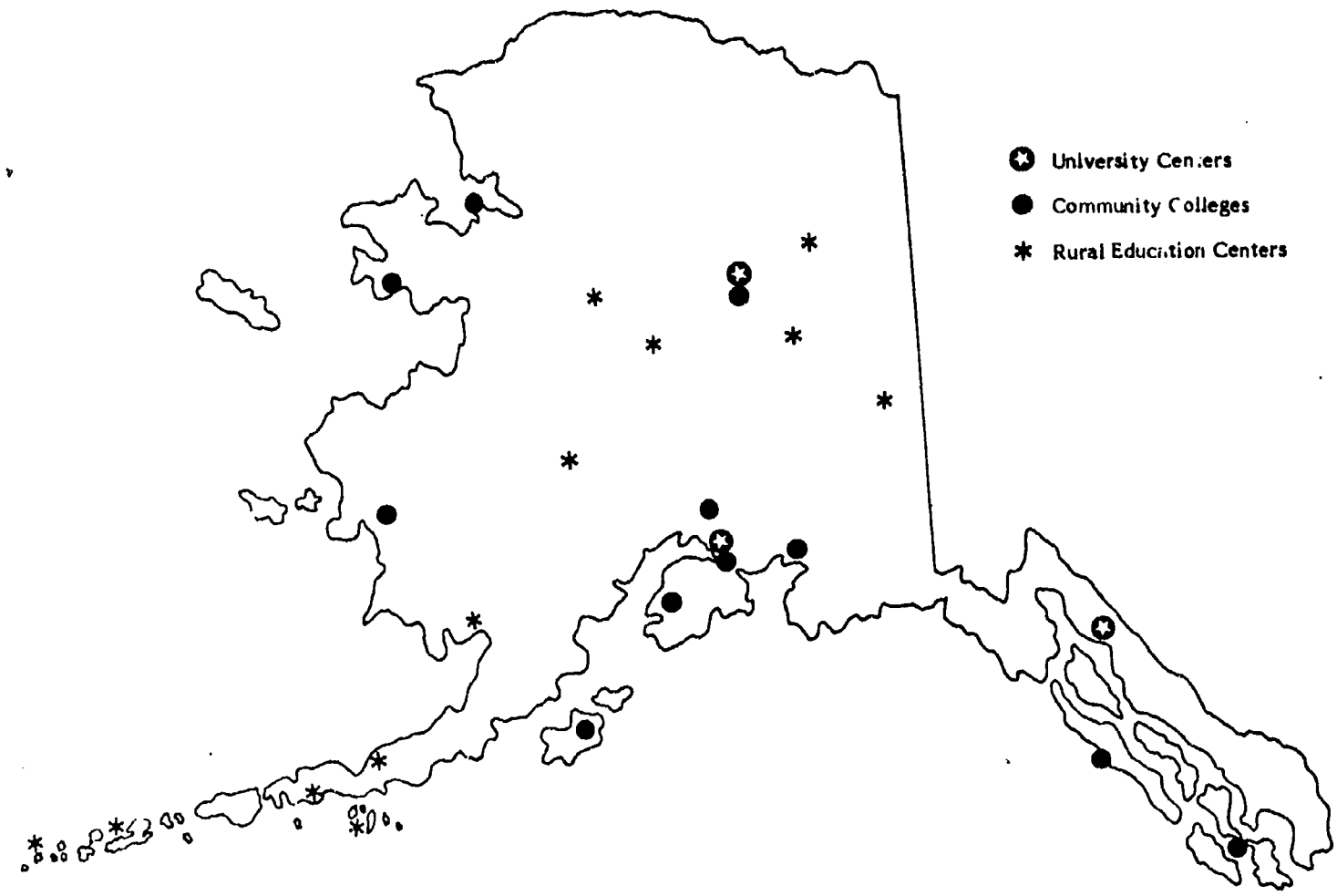
The University of Alaska operates three university centers, eleven community colleges and twelve rural education centers. The locations of these higher education delivery sites are listed on the following page.

This section provides, in part, selected summary information for the University of Alaska. Tables 1 through 13 identify degrees offered and awarded from 1978 to 1984 for each unit.* Table 14 provides a profile of students attending the University system according to age, part-time and full-time status, and ethnicity. Table 15 shows the state forecast of general fund unrestricted revenues.

It is intended that these data provide an information base to assist decision-makers concerned with the state's University system. The data should also serve to stimulate additional questions that relate to the objectives of the University and the quality of the educational process.

*Appendix A defines program areas in which degrees are offered.

UNIVERSITY OF ALASKA SYSTEM



Locations of University of Alaska Sites

University Centers	Community Colleges	Rural Education Centers
Anchorage	Anchorage	Adak
Fairbanks	Bethel (Kuskokwim)	Cold Bay
Juneau	Fairbanks (Tanana Valley)	Delta Junction
	Ketchikan	Fort Yukon
	Kodiak	Galena
	Kotzebue (Chukchi)	King Cove
	Nome (Northwest)	McGrath
	Palmer (Mat-Su)	Nenana
	Sitka (Islands)	Sand Point
	Soldotna (Kenai Peninsula)	Dillingham
	Valdez (Prince William Sound)	Tok
		Unalaska

TABLE 1

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - ANCHORAGE

Level: Bachelor's

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BIOLOGICAL SCIENCES							
Biological Science	0	9	7	8	7	10	41
TOTAL	0	9	7	8	7	10	41
BUSINESS & MANAGEMENT							
Business Administration	34	35	28	46	51	23	217
Accounting	0	0	0	0	0	37	37
Finance	0	0	0	0	0	6	6
Management	0	0	0	0	0	17	17
Marketing	0	0	0	0	0	3	3
Real Estate	0	0	0	0	0	3	3
TOTAL	34	35	28	46	51	89	283
COMMUNICATIONS							
Journalism & Public Communications	2	3	1	8	12	12	38
TOTAL	2	3	1	8	12	12	38
COMPUTER & INFORMATION SCIENCES							
Computer Science	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
EDUCATION							
Elementary Education	22	14	19	17	26	33	131
Secondary Education	2	2	4	5	5	5	23
Music Education - Elementary	0	0	0	1	0	0	1
Music Education - Secondary	0	0	0	2	0	0	2
Physical Education	0	0	0	3	1	2	6
TOTAL	24	16	23	28	32	40	163
ENGINEERING							
Civil Engineering	0	0	0	0	2	8	10
TOTAL	0	0	0	0	2	8	10

TABLE 1 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - ANCHORAGE

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
FINE & APPLIED ARTS							
Art	6	12	5	10	9	12	54
Music Performance	0	1	0	0	1	2	4
Music	2	0	1	3	2	1	9
Theater	0	0	2	0	1	5	8
TOTAL	8	13	8	13	13	20	75
HEALTH PROFESSIONS							
Nursing Science	21	35	28	49	52	40	225
Medical Technology	0	0	1	1	0	1	3
TOTAL	21	35	29	50	52	41	228
LETTERS							
English	6	5	1	9	3	1	25
TOTAL	6	5	1	9	3	1	25
MATHEMATICS							
Mathematics	2	4	6	5	7	7	31
TOTAL	2	4	6	5	7	7	31
PHYSICAL SCIENCE							
Chemistry	0	1	0	1	3	1	6
TOTAL	0	1	0	1	3	1	6
PSYCHOLOGY							
Psychology	20	13	21	12	16	10	92
TOTAL	20	13	21	12	16	10	92
PUBLIC AFFAIRS & SCIENCES							
Social Work	2	2	12	11	10	12	49
Justice	0	7	7	7	4	12	37
TOTAL	2	9	19	18	14	24	86

TABLE 1 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - ANCHORAGE

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
SOCIAL SCIENCES							
Anthropology	5	7	3	8	5	8	36
Economics	2	2	2	3	3	2	14
History	9	4	4	2	4	3	26
Political Science	8	1	4	8	2	6	29
Sociology	4	10	4	5	6	3	32
TOTAL	28	24	17	26	20	22	137
INTERDISCIPLINARY STUDIES							
Natural Science	0	3	3	4	4	3	17
Interdisciplinary Studies	11	0	2	1	3	2	19
TOTAL	11	3	5	5	7	5	36
OTHER	8	2	1	2	0	0	13
TOTAL BACHELOR'S DEGREES	166	172	166	231	239	290	1264

Level: Master's

ARCHITECTURE & ENVIRONMENTAL DESIGN							
Planning	0	0	0	0	1	3	4
TOTAL	0	0	0	0	1	3	4
BIOLOGICAL SCIENCES							
Biological Science	0	0	0	0	1	1	2
TOTAL	0	0	0	0	1	1	2
BUSINESS & MANAGEMENT							
Business Administration	1	4	6	5	13	11	40
TOTAL	1	4	6	5	13	11	40
EDUCATION							
Education	44	53	38	35	35	43	248
TOTAL	44	53	38	35	35	43	248

Table 1 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - ANCHORAGE

Level: Master's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
ENGINEERING							
Civil Engineering	0	2	3	2	2	1	10
Engineering Management	2	5	14	3	6	6	36
Science Management	3	3	0	0	0.	1	7
Environmental Quality Engineering	0	1	0	0	0	4	5
Environmental Quality Science	0	0	1	1	1	0	3
Arctic Engineering	0	0	0	2	2	1	5
TOTAL	5	11	18	8	11	13	66
HEALTH PROFESSIONS							
Nursing Science	0	0	0	0	9	0	9
TOTAL	0	0	0	0	9	0	9
LETTERS							
English	0	5	1	3	2	0	11
Creative Writing	0	0	0	0	1	0	1
TOTAL	0	5	1	3	3	0	12
PSYCHOLOGY							
Counseling Psychology	6	4	6	13	7	4	40
TOTAL	6	4	6	13	7	4	40
PUBLIC AFFAIRS & SERVICES							
Public Administration	15	4	7	6	3	6	41
TOTAL	15	4	7	6	3	6	41
INTERDISCIPLINARY STUDIES							
Interdisciplinary Studies	1	2	1	0	1	0	5
TOTAL	1	2	1	0	1	0	5
OTHER	0	0	1	3	2	0	6
TOTAL MASTER'S DEGREES	72	83	78	73	86	81	473

TABLE 2

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Associate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
OTHER	17	15	22	37	32	23	146
TOTAL ASSOCIATE DEGREES	17	15	22	37	32	23	146

Level: Bachelor's

AGRICULTURE & NATURAL RESOURCES							
Fisheries Science	0	4	2	5	11	5	27
Wildlife Management	6	8	13	7	18	5	57
Natural Resources Management	5	13	9	10	19	20	76
TOTAL	11	25	24	22	48	30	160
AREA STUDIES							
Russian Studies	0	1	0	0	0	0	1
Northern Studies	0	0	3	0	0	2	5
TOTAL	0	1	3	0	0	2	6
BIOLOGICAL SCIENCES							
Biological Science	20	30	33	23	40	30	176
TOTAL	20	30	33	23	40	30	176
BUSINESS & MANAGEMENT							
Accounting	6	13	14	14	16	14	77
Business Administration	7	8	24	27	27	36	129
TOTAL	13	21	38	41	43	50	206
COMMUNICATIONS							
Journalism	9	12	12	6	11	5	55
TOTAL	9	12	12	6	11	5	55
COMPUTER & INFORMATION SERVICES							
Computer Science	0	0	0	1	3	7	11
TOTAL	0	0	0	1	3	7	11

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
EDUCATION							
Education	9	0	1	0	0	0	10
Elementary Education	14	23	25	21	27	36	146
Secondary Education	0	3	5	5	10	5	28
Early Childhood Education	0	3		1	1	3	10
Music Education	0	0	2	0	0	0	2
Music Education - Elementary	0	0	0	1	0	1	2
Music Education - Secondary	0	0	0	5	4	1	10
Physical Education	3	1	6	4	0	4	18
Cross-Cultural Education	0	3	2	7	11	6	29
TOTAL	26	33	43	44	53	56	255
ENGINEERING							
Petroleum Engineering	0	0	0	5	8	12	25
Civil Engineering	16	13	16	17	17	15	94
Electrical Engineering	2	5	10	10	13	8	48
Mechanical Engineering	2	5	4	9	18	14	52
Geological Engineering	3	7	5	4	5	5	29
Mining Engineering	5	2	3	5	1	4	20
TOTAL	28	32	38	50	62	58	268
FINE & APPLIED ARTS							
Art	7	7	8	8	7	9	46
Music Performance	0	0	4	1	1	1	7
Music	4	5	1	0	3	1	14
Theater	0	2	3	1	0	2	8
TOTAL	11	14	16	10	11	13	75
FOREIGN LANGUAGES							
Foreign Languages	0	0	2	2	0	0	4
Inupiaq Eskimo	0	2	1	0	1	0	4
Yupik Eskimo	0	1	0	2	0	1	4
TOTAL	0	3	3	4	1	1	12

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
LETTERS							
English	2	3	9	4	12	5	35
Applied Linguistics	0	0	0	0	0	1	1
Linguistics	0	0	0	1	1	1	3
Speech Communication	2	1	2	1	0	3	9
Philosophy	3	1	0	0	0	1	5
TOTAL	7	5	11	6	13	11	53
MATHEMATICS							
Mathematics	6	5	5	5	4	8	33
TOTAL	6	5	5	5	4	8	33
PHYSICAL SCIENCE							
Applied Physics	0	0	0	0	0	0	0
Physics	3	3	3	3	0	1	13
Chemistry	4	3	4	1	8	4	24
Geology	8	4	7	5	11	6	41
Earth Science	0	1	1	1	2	1	6
TOTAL	15	11	15	10	21	12	84
PSYCHOLOGY							
Psychology	4	5	5	10	9	7	40
TOTAL	4	5	5	10	9	7	40
PUBLIC AFFAIRS & SERVICES							
Justice	0	4	4	4	8	11	31
TOTAL	0	4	4	4	8	11	31

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
SOCIAL SCIENCES							
Anthropology	6	2	7	2	11	8	36
Economics	3	2	1	4	2	8	20
History	5	1	3	6	9	3	27
Geography	5	2	4	4	3	4	22
Political Science	1	4	8	5	9	7	34
Sociology	3	9	4	5	10	3	34
Alaska Native Studies	0	0	0	0	1	1	2
Geography and Regional Development	0	0	0	0	0	0	0
TOTAL	23	20	27	26	45	34	175
INTERDISCIPLINARY STUDIES							
General Science	1	3	2	0	1	0	7
Humanities	3	0	0	3	2	1	9
Interdisciplinary Studies	0	0	0	0	1	2	3
TOTAL	4	3	2	3	4	3	19
OTHER	10	8	4	4	0	0	26
TOTAL BACHELOR'S DEGREES	187	232	283	269	376	338	1685

Level: Master's

AGRICULTURE & NATURAL RESOURCES							
Wildlife Management	4	6	7	7	5	6	35
Natural Resources Management	2	0	2	5	6	3	18
Fisheries Biology	0	1	3	1	0	6	11
TOTAL	6	7	12	13	11	15	64
BIOLOGICAL SCIENCES							
Biology	1	9	2	4	6	3	25
Botany	3	1	0	0	0	2	6
Zoology	1	3	3	1	2	3	13
Marine Biology	0	0	1	0	1	1	3
TOTAL	5	13	6	5	9	9	47

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA -- FAIRBANKS

Level: Master's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & MANAGEMENT							
Business Administration	10	6	8	12	13	3	52
TOTAL	10	6	8	12	13	3	52
EDUCATION							
Education	24	17	31	11	12	16	111
Elementary Education	0	0	0	2	6	5	13
Secondary Education	0	0	0	2	1	3	6
College Student Personnel Administration	0	0	0	3	5	2	10
Guidance and Counseling	0	0	0	3	3	10	16
Public School Administration	0	0	0	6	6	7	19
Vocational Education	0	0	0	2	0	0	2
Cross-Cultural Education	0	0	1	2	1	3	7
Vocational Administration	0	0	0	0	0	1	1
TOTAL	24	17	32	31	34	47	185
ENGINEERING							
Petroleum Engineering	0	0	0	0	1	1	2
Civil Engineering	1	2	5	3	4	0	15
Electrical Engineering	0	0	0	0	0	1	1
Mechanical Engineering	0	0	0	0	0	0	0
Geological Engineering	0	0	0	0	0	2	2
Engineering Management	6	1	1	0	3	2	13
Science Management	0	2	1	0	1	2	6
Mineral Preparation Engineering	2	1	0	1	0	2	6
Mining Engineering	0	1	1	0	2	1	5
Environmental Quality Engineering	0	0	0	2	1	0	3
Environmental Quality Science	0	2	1	0	5	2	10
Arctic Engineering	0	0	0	1	4	0	5
TOTAL	9	9	9	7	21	13	68
FINE & APPLIED ARTS							
Music	0	2	1	2	1	1	7
TOTAL	0	2	1	2	1	1	7

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Master's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
LETTERS							
English	1	0	5	4	3	5	18
TOTAL	1	0	5	4	3	5	18
MATHEMATICS							
Mathematics	1	1	0	0	0	2	4
TOTAL	1	1	0	0	0	2	4
PHYSICAL SCIENCES							
Physics	1	0	0	1	0	0	2
Chemistry	1	2	0	2	2	0	7
Atmospheric Science	0	0	1	1	4	0	6
Oceanography	2	5	7	3	1	8	26
Geology and Geophysics	7	6	3	8	14	3	41
Space Physics	0	1	2	3	2	5	13
Geology	0	0	0	0	0	4	4
TOTAL	11	14	13	18	23	20	99
SOCIAL SCIENCES							
Anthropology	3	0	7	3	1	3	17
Resource Economics	0	0	0	0	0	0	0
TOTAL	3	0	7	3	1	3	17
INTERDISCIPLINARY STUDIES							
General Science	1	0	0	0	0	0	1
Interdisciplinary Studies	0	0	0	1	1	0	2
TOTAL	1	0	0	1	1	0	3
OTHER	2	4	1	0	0	0	7
TOTAL MASTER'S DEGREES	73	73	94	96	117	118	571

TABLE 2 (continued)

Degrees Offered and Awarded
UNIVERSITY OF ALASKA - FAIRBANKS

Level: Doctorate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
AGRICULTURE & NATURAL RESOURCES							
Wildlife Management	0	0	0	0	2	0	2
TOTAL	0	0	0	0	2	0	2
BIOLOGICAL SCIENCES							
Biological Science	2	0	1	1	0	1	5
TOTAL	2	0	1	1	0	1	5
MATHEMATICS							
Mathematics	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
PHYSICAL SCIENCES							
Physics	0	0	0	0	0	0	0
Atmospheric Science	0	0	0	0	1	0	1
Geology and Geophysics	2	0	0	0	0	1	3
Space Physics	0	0	1	0	1	0	2
Oceanography	0	0	0	0	0	3	3
TOTAL	2	0	1	0	2	4	9
INTERDISCIPLINARY STUDIES							
Interdisciplinary Studies	1	0	0	5	1	1	8
TOTAL	1	0	0	5	1	1	8
TOTAL DOCTORAL DEGREES	5	0	2	6	5	6	24

TABLE 3

Certificates and Degrees Offered and Awarded
UNIVERSITY OF ALASKA - JUNEAU

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
DATA PROCESSING TECHNOLOGIES							
Data Processing	0	0	0	0	0	2	2
TOTAL	0	0	0	0	0	2	2
PUBLIC SERVICE RELATED TECHNOLOGIES							
Early Childhood Education	0	0	0	1	3	0	4
TOTAL	0	0	0	1	3	0	4
OTHER	1	0	0	5	3	2	11
TOTAL CERTIFICATES	1	0	0	6	6	4	17

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Office Administration	0	0	0	0	0	4	4
TOTAL	0	0	0	0	0	4	4
MECHANICAL & ENGINEERING TECHNOLOGIES							
Construction Technology	2	0	0	3	0	1	6
Power Technology	0	0	0	0	0	0	0
TOTAL	2	0	0	3	0	1	6
NATURAL SCIENCE TECHNOLOGIES							
Marine Technology	1	0	0	1	0	7	9
TOTAL	1	0	0	1	0	7	9
PUBLIC SERVICE RELATED TECHNOLOGIES							
Early Childhood Education	1	2	0	2	2	0	7
Paralegal Studies	0	0	1	1	2	4	8
TOTAL	1	2	1	3	4	4	15

TABLE 3 (continued)

Certificates and Degrees Offered and Awarded
UNIVERSITY OF ALASKA - JUNEAU

Level: Associate (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
ARTS & SCIENCES							
General Program	13	22	11	12	5	7	70
Social Science	0	0	0	0	1	0	1
TOTAL	13	22	11	12	6	7	71
OTHER	2	0	0	1	3	1	7
TOTAL ASSOCIATE DEGREES	19	24	12	20	13	24	112

Level: Bachelor's

AGRICULTURE & NATURAL RESOURCES							
Fisheries	0	2	2	2	1	3	10
TOTAL	0	2	2	2	1	3	10
BIOLOGICAL SCIENCES							
Biology	0	1	2	2	2	1	8
TOTAL	0	1	2	2	2	1	8
BUSINESS & MANAGEMENT							
Business Administration	0	1	3	1	5	8	18
TOTAL	0	1	3	1	5	8	18
EDUCATION							
Elementary Education	7	1	2	3	4	6	23
Secondary Education	0	0	1	2	0	0	3
TOTAL	7	1	3	5	4	6	26
FINE & APPLIED ARTS							
Music	0	0	0	0	1	1	2
TOTAL	0	0	0	0	1	1	2

TABLE 3 (continued)

Certificates and Degrees Offered and Awarded
UNIVERSITY OF ALASKA - JUNEAU

Level: Bachelor's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
SOCIAL SCIENCES							
Government	0	0	0	0	1	1	2
TOTAL	0	0	0	0	1	1	2
INTERDISCIPLINARY STUDIES							
Liberal Arts	0	0	0	7	2	2	11
Interdisciplinary Studies	0	1	0	0	0	1	2
TOTAL	0	1	0	7	2	3	13
OTHER	2	0	0	0	0	0	2
TOTAL BACHELOR'S DEGREES	9	6	10	17	16	23	81

Level: Master's

AGRICULTURE & NATURAL RESOURCES							
Fisheries	0	3	1	3	1	5	13
TOTAL	0	3	1	3	1	5	13
BUSINESS & MANAGEMENT							
Business Administration	0	1	1	0	0	1	3
TOTAL	0	1	1	0	0	1	3
EDUCATION							
Education	16	15	6	11	7	8	63
Vocational Education	0	0	0	0	1	2	3
TOTAL	16	15	6	11	8	10	66
ENGINEERING							
Engineering Management	2	0	4	1	0	0	7
Science Management	0	0	0	0	0	0	0
TOTAL	2	0	4	1	0	0	7

TABLE 3 (continued)

Certificates and Degrees Offered and Awarded
UNIVERSITY OF ALASKA - JUNEAU

Level: Master's (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
PUBLIC AFFAIRS & SERVICES							
Public Administration	3	7	2	2	2	2	18
TOTAL	3	7	2	2	2	2	18
OTHER	2	0	0	0	0	0	2
TOTAL MASTER'S DEGREES	23	26	14	17	11	18	109

TABLE 4

Certificates and Degrees Offered and Awarded
ANCHORAGE COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	24	0	0	0	0	0	24
TOTAL	24	0	0	0	0	0	24
HEALTH SERVICES & PARAMEDIC TECHNOLOGIES							
Dental Assisting	0	12	12	8	5	12	49
Practical Nursing	0	16	15	8	18	11	68
TOTAL	0	28	27	16	23	23	117
MECHANICAL & ENGINEERING TECHNOLOGIES							
Aviation Maintenance Technology	0	10	10	0	3	14	37
Architectural Drafting	0	4	0	1	3	1	9
Automotive Technology	9	2	3	2	2	2	20
Diesel Technology	1	8	9	3	3	5	29
Electronics Technology	11	12	2	4	27	28	84
Civil Engineering Drafting	0	12	0	1	3	9	25
Mechanical & Electrical Drafting	25	1	0	0	4	4	34
Structural Drafting	0	9	0	3	1	1	14
TOTAL	46	58	24	14	46	64	252
TOTAL CERTIFICATES	70	86	51	30	69	87	393

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business Administration	0	31	27	43	56	25	182
Accounting	12	11	6	24	18	9	80
Office Occupations	9	13	4	9	13	10	58
TOTAL	21	55	37	76	87	44	320
DATA PROCESSING TECHNOLOGIES							
Computer Information Systems	1	11	5	14	19	14	64
TOTAL	1	11	5	14	19	14	64

TABLE 4 (continued)
Certificates and Degrees Offered and Awarded
ANCHORAGE COMMUNITY COLLEGE

Level: Associate (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
HEALTH SERVICES & PARAMEDIC TECHNOLOGIES							
Dental Assisting	3	4	3	5	1	7	23
Dental Hygiene	6	8	10	7	6	7	44
Medical Laboratory Technology	9	4	10	11	8	10	52
Nursing Science	30	23	19	36	56	1	165
Nursing	0	0	0	0	0	25	25
Medical Assisting	7	2	1	0	2	0	12
Human Services	0	0	0	0	0	2	2
TOTAL	55	41	43	59	73	52	323
MECHANICAL & ENGINEERING TECHNOLOGIES							
Air Traffic Control	0	8	6	5	3	9	31
Aviation Maintenance Technology	18	3	1	2	2	2	28
Professional Piloting	0	13	12	10	9	12	56
Automotive Technology	3	4	2	3	0	4	16
Diesel Technology	1	3	3	5	3	3	18
Welding Technology	0	1	3	2	5	6	17
Surveying Technology	5	5	8	5	1	5	29
Electronics Technology	11	17	12	12	26	28	106
Architectural & Engineering Drafting Technology	6	12	4	8	7	2	39
Aviation Administration	0	0	0	0	0	5	5
TOTAL	44	66	51	52	56	76	345
NATURAL SCIENCE TECHNOLOGIES							
Food Services Technology	5	1	1	1	4	2	14
Home Economics	4	2	3	5	8	9	31
TOTAL	9	3	4	6	12	11	45
PUBLIC SERVICES RELATED TECHNOLOGIES							
Fire Science	8	8	5	5	10	8	44
TOTAL	8	8	5	5	10	8	44

TABLE 4 (continued)

Certificates and Degrees Offered and Awarded
ANCHORAGE COMMUNITY COLLEGE

Level: Associate (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
ARTS & SCIENCES							
General Program	83	68	90	90	10	27	368
TOTAL	83	68	90	90	10	27	368
OTHER	5	9	4	2	122	73	215
TOTAL ASSOCIATE DEGREES	226	261	239	304	389	305	1724

TABLE 5

Certificates and Degrees Offered and Awarded
ISLANDS COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Accounting Clerk	0	0	0	0	0	0	0
Clerk Typist	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
MECHANICAL & ENGINEERING TECHNOLOGIES							
Welding	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
NATURAL SCIENCE TECHNOLOGIES							
Marine Maintenance Technology	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
OTHER	0	4	0	0	0	0	4
TOTAL CERTIFICATES	0	4	0	0	0	0	4

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business Administration	0	1	2	2	0	0	5
Office Occupations	0	1	0	1	0	0	2
TOTAL	0	2	2	3	0	0	7
ARTS & SCIENCES							
General Program	4	0	4	2	9	5	24
TOTAL	4	0	4	2	9	5	24
TOTAL ASSOCIATE DEGREES	4	2	6	5	9	5	31

TABLE 6

Certificates and Degrees Offered and Awarded
KENAI PENINSULA COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	10	12	9	5	14	6	56
TOTAL	10	12	9	5	14	6	56
MECHANICAL & ENGINEERING TECHNOLOGIES							
Petroleum Technology	11	7	6	6	5	1	36
TOTAL	11	7	6	6	5	1	36
TOTAL CERTIFICATES	21	19	15	11	19	7	92

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business Administration	0	0	0	0	3	7	10
Office Occupations	2	6	5	1	5	1	20
TOTAL	2	6	5	1	8	8	30
MECHANICAL & ENGINEERING TECHNOLOGIES							
Industrial Process Instrumentation	0	3	10	8	17	10	48
Petroleum Engineering Aide	0	0	3	2	1	6	12
Petroleum Technology	4	22	37	36	43	17	159
Design Drafting	0	0	0	0	0	1	1
TOTAL	4	25	50	46	61	34	220
NATURAL SCIENCE TECHNOLOGIES							
Forest Technology	0	0	0	0	4	1	5
TOTAL	0	0	0	0	4	1	5
ARTS & SCIENCE							
General Program	9	8	21	19	2	15	74
TOTAL	9	8	21	19	2	15	74

TABLE 6 (continued)

Certificates and Degrees Offered and Awarded
KENAI PENINSULA COMMUNITY COLLEGE

Level: Associate (Cont.)

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
OTHER	0	3	4	2	9	5	23
TOTAL ASSOCIATE DEGREES	15	42	80	68	34	63	352

TABLE 7

Certificates and Degrees Offered and Awarded
KETCHIKAN COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Clerk Typist	0	0	0	0	0	0	0
Stenographer	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
MECHANICAL & ENGINEERING TECHNOLOGIES							
Diesel Technology	3	3	4	5	1	4	20
TOTAL	3	3	4	5	1	4	20
TOTAL CERTIFICATES	3	3	4	5	1	4	20

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Secretarial Science	2	0	2	0	1	0	5
TOTAL	2	0	2	0	1	0	5
MECHANICAL & ENGINEERING TECHNOLOGIES							
Diesel Technology	1	1	0	0	0	0	2
TOTAL	1	1	0	0	0	0	2
ARTS & SCIENCES							
General Program	2	5	10	5	0	10	32
TOTAL	2	5	10	5	0	10	32
OTHER	0	0	0	0	6	0	6
TOTAL ASSOCIATE DEGREES	5	6	12	5	7	10	45

TABLE 8

Certificates & Degrees Offered and Awarded
KODIAK COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	0	0	0	0	0	1	1
TOTAL	0	0	0	0	0	1	1
NATURAL SCIENCE TECHNOLOGIES							
Home Economics	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
TOTAL CERTIFICATES	0	0	0	0	0	1	1

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business	0	0	0	0	1	0	1
Business Administration	0	0	2	4	2	2	10
Office Occupations	0	1	0	0	0	0	1
TOTAL	0	1	2	4	3	2	12
NATURAL SCIENCE TECHNOLOGIES							
Commercial Fishing	0	0	0	0	0	0	0
Seafood Processing	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
ARTS & SCIENCE							
General Program	1	7	3	8	6	3	28
TOTAL	1	7	3	8	6	3	28
OTHER	0	2	0	0	5	1	8
TOTAL ASSOCIATE DEGREES	1	10	5	12	14	6	48

TABLE 9

Certificates and Degrees Offered and Awarded
KUSKOKWIM COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
HEALTH SERVICES & PARAMEDIC TECHNOLOGIES							
Community Health Aide	11	20	6	5	0	8	50
TOTAL	11	20	6	5	0	8	50
OTHER	1	3	1	0	0	0	5
TOTAL CERTIFICATES	12	23	7	5	0	8	55

Level: Associate

HEALTH SERVICE & PARAMEDIC TECHNOLOGIES							
Community Health Practitioner	0	0	1	0	0	1	2
TOTAL	0	0	1	0	0	1	2
PUBLIC SERVICE RELATED TECHNOLOGIES							
Early Childhood Education	2	1	6	0	0	0	9
TOTAL	2	1	6	0	0	0	9
ARTS & SCIENCES							
Yupik Language	0	0	0	0	0	0	0
General Program	14	8	1	9	1	7	40
TOTAL	14	8	1	9	1	7	40
OTHER	0	0	0	0	2	5	7
TOTAL ASSOCIATE DEGREES	16	9	8	9	3	13	58

TABLE 10

Certificates and Degrees Offered and Awarded
MATANUSKA-SUSITNA COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
MECHANICAL & ENGINEERING TECHNOLOGIES							
Electronics Technology	0	7	5	5	4	1	22
Heating Technology	2	0	4	3	3	5	17
Refrigeration Technology	0	11	10	11	10	5	47
TOTAL	2	18	19	19	17	11	86
TOTAL CERTIFICATES	2	18	19	19	17	11	86

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business Administration	0	0	3	4	5	4	16
Accounting	2	1	1	2	0	1	7
Secretarial Studies	0	0	0	0	3	1	4
TOTAL	2	1	4	6	8	6	27
MECHANICAL & ENGINEERING TECHNOLOGIES							
Electronics Technology	0	2	3	2	1	0	8
Refrigeration & Heating Technology	1	0	2	2	1	3	9
TOTAL	1	2	5	4	2	3	17
NATURAL SCIENCE TECHNOLOGIES							
Agriculture	0	0	0	0	1	11	12
TOTAL	0	0	0	0	1	11	12
PUBLIC SERVICE RELATED TECHNOLOGIES							
Justice	7	5	1	0	0	0	13
TOTAL	7	5	1	0	0	0	13
ARTS & SCIENCES							
General Program	3	6	13	16	1	12	51
TOTAL	3	6	13	16	1	12	51

TABLE 10 (continued)

Certificates and Degrees Offered and Awarded
MATANUSKA-SUSITNA COMMUNITY COLLEGE

Level: Associate (Cont.)

Program Name	Number of Graduates						
	78-79	79-80	80-81	81-82	82-83	83-84	Total
OTHER	2	0	1	1	24	13	41
TOTAL ASSOCIATE DEGREES	15	14	24	27	36	45	161

TABLE 11

Certificates and Degrees Offered and Awarded
NORTHWEST COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Business	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
HEALTH SERVICES & PARAMEDIC TECHNOLOGIES							
Community Health Practioner	11	0	0	0	0	0	11
TOTAL	11	0	0	0	0	0	11
OTHER	6	0	0	0	0	0	6
TOTAL CERTIFICATES	17	0	0	0	0	0	17

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Business	0	2	1	2	0	0	5
TOTAL	0	2	1	2	0	0	5
HEALTH SERVICES & PARAMEDIC TECHNOLOGIES							
Community Health Practioner	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
ARTS & SCIENCES							
General Program	3	1	0	0	3	6	13
TOTAL	3	1	0	0	3	6	13
OTHER	0	2	0	0	0	0	2
TOTAL ASSOCIATE DEGREES	3	5	1	2	3	6	20

TABLE 12

Certificates and Degrees Offered and Awarded
PRINCE WILLIAM SOUND COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
HEALTH SERVICES & PARAMEDICAL TECHNOLOGIES							
Developmental Disabilities	0	0	0	0	0	3	3
TOTAL	0	0	0	0	0	3	3
TOTAL CERTIFICATES	0	0	0	0	0	3	3

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
PUBLIC SERVICE RELATED TECHNOLOGIES							
Developmental Disabilities	0	0	0	0	0	1	1
TOTAL	0	0	0	0	0	1	1
ARTS & SCIENCES							
General Program	0	0	1	1	4	11	17
TOTAL	0	0	1	1	4	11	17
TOTAL ASSOCIATE DEGREES	0	0	1	1	4	12	18

TABLE 13

Certificates and Degrees Offered and Awarded
TANANA VALLEY COMMUNITY COLLEGE

Level: Certificate

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
BUSINESS & COMMERCE TECHNOLOGIES							
Office Occupations	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
MECHANICAL & ENGINEERING TECHNOLOGIES							
Airframe and Power Plant	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0
NATURAL SCIENCE TECHNOLOGIES							
Food Service Baking Technology	1	1	0	1	0	0	3
TOTAL	1	1	0	1	0	0	3
PUBLIC SERVICE RELATED TECHNOLOGIES							
Fire Science Technology	1	0	0	0	0	0	1
TOTAL	1	0	0	0	0	0	1
TOTAL CERTIFICATES	2	1	0	1	0	0	4

Level: Associate

BUSINESS & COMMERCE TECHNOLOGIES							
Accounting	0	0	0	0	0	0	0
Business	0	1	0	1	2	2	6
Office Occupations	5	4	4	3	3	3	22
TOTAL	5	5	4	4	5	5	28
MECHANICAL & ENGINEERING TECHNOLOGIES							
Airframe and Power Plant	0	5	3	4	7	7	26
Aviation	10	0	5	1	0	1	17
Drafting Technology	0	0	2	0	2	0	4
Electronics Technology	7	5	4	13	7	9	45
Petroleum Technology	0	17	25	28	28	12	110
TOTAL	17	27	39	46	44	29	202

TABLE 13 (continued)

Certificates and Degrees Offered and Awarded
TANANA VALLEY COMMUNITY COLLEGE

Level: Associate (cont.)

Program Name	Number of Graduates 78-79	79-80	80-81	81-82	82-83	83-84	Total
NATURAL SCIENCE TECHNOLOGIES							
Food Service							
Baking Technology	1	4	5	0	0	0	10
TOTAL	1	4	5	0	0	0	10
PUBLIC SERVICE RELATED TECHNOLOGIES							
Early Childhood Development	6	0	2	7	5	3	23
Resource Information Technology	2	8	3	3	3	0	19
Fire Science	1	2	1	2	1	4	11
Paraprofessional Counseling	0	0	3	4	8	1	16
Justice	0	0	0	0	0	0	0
TOTAL	9	10	9	16	17	8	69
ARTS & SCIENCES							
General Program	0	0	0	0	0	3	3
TOTAL	0	0	0	0	0	3	3
OTHER	14	3	0	0	1	8	26
TOTAL ASSOCIATE DEGREES	46	49	57	66	67	53	338

TABLE 14

STUDENT ENROLLMENT STATISTICS

STATEWIDE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	52	1,555	2,903	1,510	1,317	306	72	23	82	7,820
PART-TIME	497	1,172	4,529	5,219	8,173	3,211	990	451	741	24,983
PERCENTAGE	1.7	8.5	23.2	21.1	29.7	11	3.3	1.5		100

PERCENTAGE OF FULL-TIME STUDENTS: 23.8%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	224	680	91	80	4,768	266	1,725	7,834
PART-TIME	622	1,947	302	296	16,282	576	4,891	24,916
PERCENTAGE	3.2	10.1	1.5	1.4	80.6	3.2		100

Source: University of Alaska - Office of Institutional Planning

TABLE 14

STUDENT ENROLLMENT STATISTICS

UNIVERSITY OF ALASKA - ANCHORAGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	16	311	583	325	333	63	17	2	51	1,701
PART-TIME	15	84	387	461	739	217	53	15	416	2,387
PERCENTAGE	1	10.9	26.8	21.7	29.6	7.7	1.°	.4		100

PERCENTAGE OF FULL-TIME STUDENTS: 41.6%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	33	53	16	11	854	68	666	1,701
PART-TIME	50	39	12	17	866	44	1,359	2,387
PERCENTAGE	4	4.4	1.4	1.4	83.4	5.4		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

UNIVERSITY OF ALASKA - FAIRBANKS

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	14	725	1,323	580	386	62	19	4	2	3,115
PART-TIME	16	72	402	627	938	281	85	27	8	2,456
PERCENTAGE	.5	14.3	31	21.7	23.8	6.2	1.9	.6		100

PERCENTAGE OF FULL-TIME STUDENTS: 56%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	37	254	24	24	1,921	121	734	3,115
PART-TIME	61	125	30	19	1,699	76	446	2,456
PERCENTAGE	2.2	8.6	1.2	1.0	92.5	4.5		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

UNIVERSITY OF ALASKA - JUNEAU

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	4	36	74	73	77	24	4	0	8	300
PART-TIME	74	62	228	352	792	372	101	38	52	2,071
PERCENTAGE	3.4	4.2	13.1	18.4	37.6	17.1	4.5	1.7		100

PERCENTAGE OF FULL-TIME STUDENTS: 12.7%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	3	39	1	3	178	8	76	308
PART-TIME	14	109	17	8	1,539	35	331	2,053
PERCENTAGE	.9	7.6	.9	.5	87.9	2.2		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

ANCHORAGE COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	7	307	596	336	307	88	18	10	12	1,681
PART-TIME	72	445	1,775	1,808	2,264	836	248	124	99	7,671
PERCENTAGE	.9	8	25.7	23.2	27.8	10	2.9	1.5		100

PERCENTAGE OF FULL-TIME STUDENTS: 18%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	120	129	39	33	1,150	40	170	1,681
PART-TIME	354	190	146	158	5,276	199	1,348	7,671
PERCENTAGE	6.1	4	2.4	2.4	82	3.1		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

CHUKCHI COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	1	1	2	1	2	1	1	0	0	9
PART-TIME	8	10	26	25	46	16	5	2	2	140
PERCENTAGE	6.1	7.5	19	17.6	32.7	11.6	4.1	1.4		100

PERCENTAGE OF FULL-TIME STUDENTS: 6%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	0	6	0	0	2	0	1	9
PART-TIME	1	85	1	0	29	9	15	140
PERCENTAGE	.8	68.4	.8	0	23.3	6.7		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

ISLANDS COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	0	4	13	10	8	6	1	0	0	42
PART-TIME	42	34	98	125	247	110	37	18	19	730
PERCENTAGE	5.6	5	14.8	17.9	33.9	15.4	5	2.4		100

PERCENTAGE OF FULL-TIME STUDENTS: 5.4%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	1	15	1	0	27	0	3	47
PART-TIME	3	105	7	2	483	10	112	722
PERCENTAGE	.6	18.4	1.2	.3	78	1.5		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

KENAI PENINSULA COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	3	71	105	62	60	20	3	2	3	331
PART-TIME	55	60	127	188	382	202	81	38	21	1,132
PERCENTAGE	4	9	16	17.2	30.5	15.1	5.6	2.6		100

PERCENTAGE OF FULL-TIME STUDENTS: 22.6%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	2	22	3	3	267	8	26	331
PART-TIME	1	19	5	8	915	18	163	1,129
PERCENTAGE	.2	3.2	.6	.9	93	2.1		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

KETCHIKAN COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	0	6	23	16	14	9	2	0	1	71
PART-TIME	36	38	89	125	202	111	38	26	13	678
PERCENTAGE	4.9	6	15.2	19.2	29.4	16.3	5.5	3.5		100

PERCENTAGE OF FULL-TIME STUDENTS: 9.5%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	1	25	1	1	39	1	5	73
PART-TIME	2	71	8	5	485	7	97	675
PERCENTAGE	.5	14.9	1.4	.9	81.1	1.2		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

KODIAK COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	0	4	7	5	4	1	1	0	0	22
PART-TIME	27	15	102	143	282	117	32	13	5	736
PERCENTAGE	3.6	2.5	14.5	19.6	38.0	15.7	4.4	1.7		100

PERCENTAGE OF FULL-TIME STUDENTS: 2.9%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	0	3	1	0	14	0	4	22
PART-TIME	3	32	17	9	525	22	128	736
PERCENTAGE	.5	5.6	2.9	1.4	86.1	3.5		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

KUSKOKWIM COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	1	14	27	6	4	3	0	0	0	55
PART-TIME	30	22	127	136	238	93	27	7	5	685
PE CENTAGE	4.2	4.9	21	19.3	32.9	13	3.7	1		100

PERCENTAGE OF FULL-TIME STUDENTS: 7.4%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	0	46	0	0	3	1	5	55
PART-TIME	1	311	11	3	268	6	84	684
PERCENTAGE	.2	54.9	1.7	.5	41.7	1.0		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

MATANUSKA-SUSITNA COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	1	26	36	27	48	8	4	3	0	153
PART-TIME	31	29	98	134	297	144	31	19	2	785
PERCENTAGE	3.4	5.9	14.3	17.2	36.9	16.2	3.7	2.4		100

PERCENTAGE OF FULL-TIME STUDENTS: 16.3%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	3	7	1	0	140	0	1	152
PART-TIME	7	22	2	3	721	6	20	781
PERCENTAGE	1.2	3.2	.3	.3	94.4	.7		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

NORTHWEST COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	0	1	0	1	1	0	0	0	0	3
PART-TIME	6	21	60	83	127	50	37	7	14	405
PERCENTAGE	1.5	5.5	15.2	21.3	32.6	12.7	9.4	1.8		100

PERCENTAGE OF FULL-TIME STUDENTS: .7%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	0	3	0	0	0	0	0	3
PART-TIME	2	178	3	1	166	4	51	405
PERCENTAGE	.6	50.7	.8	.3	46.5	1.1		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

PRINCE WILLIAM SOUND COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	0	5	19	9	10	3	0	1	0	47
PART-TIME	9	10	68	108	166	96	35	59	8	559
PERCENTAGE	1.5	2.5	14.5	19.6	29.4	16.6	5.9	10		100

PERCENTAGE OF FULL-TIME STUDENTS: 7.8%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	0	11	2	1	31	2	0	47
PART-TIME	4	24	6	5	476	8	35	558
PERCENTAGE	.7	6.1	1.4	1.1	88.9	1.8		100

TABLE 14

STUDENT ENROLLMENT STATISTICS

TANANA VALLEY COMMUNITY COLLEGE

FALL 1983

STUDENT HEADCOUNT WITHIN AGE GROUP BY FULL/PART-TIME STATUS

AGE	17 & under	18 - 19	20 - 24	25 - 29	30 - 39	40 - 49	50 - 59	60 & over	Unknown	Total
FULL-TIME	2	28	63	50	52	12	2	1	2	212
PART-TIME	25	184	533	479	688	245	96	31	41	2,322
PERCENTAGE	1.1	8.5	24	21.2	29.7	10.3	3.9	1.3		100

PERCENTAGE OF FULL-TIME STUDENTS: 8.4%

STUDENT HEADCOUNT WITHIN ETHNIC GROUP BY FULL/PART-TIME STATUS

ETHNIC GROUP	Black	Indian	Asian	Hispanic	White	Foreign	Unknown	Total
FULL-TIME	22	15	2	3	131	15	24	212
PART-TIME	81	82	17	37	1,602	47	456	2,322
PERCENTAGE	5	4.7	.9	2	84.4	3		100

TABLE 15

ALASKA
FORECASTED
GENERAL FUND UNRESTRICTED REVENUES
(IN THOUSANDS OF DOLLARS)

	FY 85	FY 86	FY 87	FY 88	FY 89	FY 90
Current Dollars	3,403,300	3,473,700	3,722,500	3,718,300	3,840,400	3,749,500
Inflation Rate	5%	6%	6%	6%	6%	6%
Real Dollars	3,241,238	3,121,025	3,155,191	2,973,153	2,896,813	2,668,519
% of FY 85 Real Dollars		96%	97%	92%	89%	82%

Source: Department of Revenue - September 1984

APPENDICES

APPENDIX A

DEFINITIONS OF PROGRAM AREAS

SECTION I. CONVENTIONAL ACADEMIC SUBDIVISIONS OF KNOWLEDGE AND TRAINING

Agriculture and Natural Resources

Includes those subject field designations which characterize degree programs having to do with the production of food and management of natural fiber, plant, forest, and wildlife resources.

Architecture and Environmental Design

Includes those subject field designations which characterize degree programs having do with training for a profession in designing buildings, communities, parks, and other manmade aspects of the physio-social environment.

Area Studies

Includes those subject field designations which characterize degree programs having to do with programs designed to study cultures indigenous to specific geographic regions.

Biological Sciences

Includes those subject field designations which characterize degree programs having to do with the science of life or living matter in all its forms and phenomena especially with regard to the origin, growth, reproduction, and structure of life forms.

Business and Management

Includes those subject field designations which characterize degree programs related to the organization, operation, administration, and control of private and public organizations.

Communications

Includes those subject field designations which characterize degree programs related to collection, preparation, and presentation of ideas and information intended for popular consumption through mass media.

Computer and Information Sciences

Includes those subject field designations which characterize degree programs having to do with the design, development, and application of computer capabilities to data storage and manipulation and related computational procedures.

Education

Includes those subject field designations which characterize degree programs related to administration and control of educational organizations and institutions and subjects related to instruction and services both within and outside of such formal organizations.

Engineering

Includes those subject field designations which characterize degree programs having to do with the practical application of basic scientific knowledge to the design, production, and operation of systems intended to facilitate man's control and use of his natural environment.

Fine and Applied Arts

Includes those subject field designations which characterize degree programs having to do with the creation and appreciation of the diverse modes of communicating ideas and emotions by means of stylized, visual, and non-visual representations and symbols.

Foreign Languages

Includes those subject field designations which characterize degree programs related to mastery of a language other than English or related to the study of a foreign culture through exploration of the literature of that culture as expressed in the vernacular language.

Health Professions

Includes those subject field designations which characterize degree programs having to do with the maintenance and restoration of physical and mental health.

Letters

Includes those subject field designations which characterize degree programs having to do with English language and literature and value systems related to ancient and modern cultures.

Mathematics

Includes those subject field designations which characterize degree programs having to do with the science of numbers and space configurations and their operations, measurement, relationships, and abstractions.

Physical Sciences

Includes those subject field designations which characterize degree programs having to do with the basic nature of matter, energy, and associated phenomena.

Psychology

Includes those subject field designations which characterize degree programs having to do with behavioral and mental processes.

Public Affairs and Services

Includes those subject field designations which characterize degree programs related to developing and improving competencies in the management and operation of governmental agencies.

Social Sciences

Includes those subject field designations which characterize degree programs having to do with all aspects of the past and present activities, conduct, interactions, and organizations of humans.

Theology

Includes those subject field designations which characterize degree programs having to do with the practice and application of theological principles and procedures as they apply to the planning, managing and organizing of religious activities.

Interdisciplinary Studies

Includes those subject field designations which characterize degree programs involving more than one major discipline without primary concentration in any one area.

Arts and Science or General Programs

Includes those subject field designations which characterize degree programs involving arts and science or general programs not organized as occupational programs leading to a two-year associate degree.

SECTION II. TECHNOLOGICAL AND OCCUPATIONAL SUBDIVISIONS OF KNOWLEDGE AND TRAINING

Business and Commerce Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for commercial, business, or secretarial occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

Data Processing Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for data processing or related occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

Health Services and Paramedical Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for health service related occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

Mechanical and Engineering Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for mechanical and engineering related occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

Natural Science Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for natural science related occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

Public Service Related Technologies

Includes those subject field designations which characterize degree and certificate programs specifically associated with development of skills required for public service related occupations at the semi-professional level. Two years of preparation beyond high school are usually sufficient for entrance into these occupational fields.

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Alexander W. Astin

Excellence and Equity: Achievable Goals for American Education

Most educators and policymakers these days seem to feel that the twin goals of excellence and equity are inherently incompatible and that the price of expanding opportunities is necessarily a reduction in quality. I want to argue that excellence and equity are not fundamentally incompatible goals and that it is possible to formulate educational policies wherein both goals can be pursued simultaneously, even in a period of fiscal austerity.

The apparent conflict between excellence and equity results primarily from deficiencies in the way we have traditionally defined "excellence." I will argue that, by embracing new and more valid conceptions of excellence, it will be possible to increase substantially the quality of education offered in the United States, while simultaneously promoting and expanding educational opportunities for all Americans during the coming years.

Traditional views of excellence. While educators and politicians are currently engaged in a great national debate about how to achieve greater excellence in our schools and colleges, very little attention is being given to the more fundamental question of what we *mean* by excellence in the first place. Perhaps the simplest way to approach this problem is to look at how we have traditionally attempted to identify the most excellent schools and colleges. There seem to be two basic approaches, which, for convenience, I shall call the *reputational* and the *resource* approaches.

In reviewing each of these approaches, I shall apply three criteria. First, is it conceptually valid, that is, does it adequately reflect what we really mean when we speak of excellence in education? Second, does the use of the approach help to enhance quality in American education? And finally, is it compatible with the goal of educational equity?

The reputational view. Probably the most straightforward way to identify the most "excellent" schools and colleges is on the basis of a consensus of opinion. Excellence, in these terms, is whatever people *think* it is. As it turns out, it is a relatively simple matter to estimate the local or national prestige of a given school or college. If you have any doubts about this, ask a group of friends to make a list of the ten or twenty "best" or most "excellent" colleges or universities in the country. What you will find is a remarkable degree of consensus, especially considering that they have some 3,000 to choose from. In my graduate seminars at UCLA, I routinely have students make such a list, and, as you can imagine, almost everybody's list includes Harvard, Yale, Stanford, and the like.

Similar beliefs about quality exist at the secondary school level. If people in the New York metropolitan area, for example, were to make a list of the "best" high schools in the city, most lists would include the Bronx High School of Science.

We all are familiar with the national ratings of the quality of graduate programs in different fields that have been done over the years, particularly the most recent one done by the National Academy of Sciences. Again we get a list nearly identical to the one my students produce. Recently my UCLA colleague, Lew Solmon, and I asked college faculty to rate the quality of undergraduate institutions, and once again we came up with pretty much the same list. We published these

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findings in *Change* magazine in October 1981.

What all of this suggests to me is that there exists in the minds of most people in this country a folklore about which are the "best" educational institutions in the country. The widespread acceptance of this folklore is manifested in several other important respects.

First, the best-prepared high school students—who have pretty much of a free choice among undergraduate institutions they will attend—typically opt for one of these selective or prestigious ones. Bright students, in other words, are heavily concentrated in a limited number of the most prestigious colleges. Graduate schools manifest their belief in the folklore by giving admissions

"How much educational value-added skill results from a given investment of financial resources?"

preference to graduates of elite institutions. Many employers, at the same time, manifest their acceptance of the folklore by limiting their recruitment efforts to just a few of the most elite institutions.

In our research we have been able to develop fairly simple procedures for identifying an institution's position in this prestige hierarchy. You need to know only two institutional characteristics to make an accurate estimate of a college's perceived excellence. By far the most important characteristic is what we call "selectivity," which is simply the average scores of entering students on either the SAT or ACT. (For more discussion of this point see "New Measures of College Selectivity" in *Research in Higher Education*, 7 September 1977, pp. 1-9—an article I coauthored with J. W. Henson.) The second attribute is institutional *size*. I might add here that size has little effect on prestige if the college is not selective, but that the importance of size becomes greater with increasing selectivity. It is partially for this reason that institutions such as Harvard, Yale, and Stanford, which are relatively large, have much greater prestige than equally selective institutions such as Swarthmore or Haverford.

The resources view. The "resources" approach of assessing institutional quality has long been a favorite of the regional accrediting associations. Under this approach, excellence is equated with the quality of faculty, students, physical plant, and fiscal resources. Faculty quality is usually assessed by determining the proportion who have doctor's degrees, publication rates, or scholarly visibility. Physical plants can be assessed in terms of the number and quality of classrooms, library resources, and laboratories. Fiscal resources can be assessed in a variety of ways, including endowments, expenditures per student, student-faculty ratios, average class size, and faculty salaries. Student quality is frequently equated with "selectivity," that is, with their average scores on admissions tests.

Research has also shown that these resource measures are highly related to each other and that they also correlate strongly with reputational judgments. Thus, institutions that are judged as being excellent tend to be the same ones that enroll the students with the highest college admissions test scores, have the largest endowments, recruit the best-trained and most prestigious faculty, pay the highest faculty salaries, and so forth.

What's wrong with traditional approaches? Let us now consider how well the traditional measures based on reputation and resources satisfy our three criteria. Do they really measure what we mean by excellence? Does their use tend to promote excellence? And do they conflict with the goal of equity?

Do they really measure excellence? If excellence refers to how much and how well students learn—what they get from the educational experience—then the most obvious problem is with reputational measures: just because an institution enjoys a good reputation in the minds of parents, students, and teachers does not necessarily mean that students will learn more from attending that institution than some other institution with a less favorable reputation. Reputation alone, in other words, does not necessarily guarantee a high-quality educational experience.

The resource approach may come somewhat closer to what some people have in mind when they speak of "excellence," because it is reasonable to assume that the student's educational experience will be superior if that student attends a school or college that spends a lot on its educational programs and that exposes the student to highly paid faculty, good libraries and laboratories, and student peers who are high achievers. Unfortunately for those who espouse the resource approach, research generally fails to support the resource view. There is, in short, little evidence to substantiate the claim that greater expenditures, more highly trained and well-paid faculty, and highly able student peers necessarily lead to greater learning.

The limitations of resource measures are easier to see with an analogy from the field of industry. Would it be legitimate, for example, to conclude that a given manufacturing company was an "ex-

cellent" business just because it had higher-paid employees than its competitors or because it spent more money than its competitors? Obviously, it is difficult to interpret such "resource" measures without having information on "outcomes" (sales, profits, and the like). In the same way, it is difficult to accept resource measures as valid indicators of excellence in a school or college without also having information on how much students are actually learning.

I am not suggesting here that financial resources are entirely irrelevant to excellence. Clearly, there are points beyond which fiscal cutbacks will almost certainly come at the expense of quality. Perhaps the most important point to keep in mind is that research so far suggests that the relationship between available financial resources and the excellence of educational programs is a weak one at best, and that the manner of resource *utilization* is probably of much greater importance than the sheer level of resources per se.

Do they promote excellence? How do traditional approaches to excellence stack up against the second criterion, namely, does their use help to enhance the quality of education offered by our schools and colleges? Let us first consider the reputational view. Reputational measures, by definition, limit the amount of "excellence" that is possible within our educational system because they are normative in nature: there must be winners and losers. Any competitive ranking system, whether it involves athletic teams, television shows, or educational institutions, limits the number that can be considered to be "excellent." If one manages to increase its rank, then some other is displaced.

Similar problems occur with the use of resource measures: resources such as highly able students, highly qualified faculty, and money are finite. Thus, in a highly competitive and meritocratic educational system, the distribution of these resources tends to become highly skewed, with just a few institutions at the top, and with the majority being regarded as being mediocre. Competition among institutions may serve to redistribute these resources, but not necessarily to increase the total amount of such resources available to the educational system as a whole. We are, in other words, playing a zero-sum game when it comes to student and faculty resources. Finally—and this is a subtle but very critical point—resource-based conceptions of excellence tend to focus institutional energies on the sheer *accumulation* or *acquisition* of resources rather than on the effective *use* of these resources to further the educational development of the student.

Do they promote equity? Does adherence to traditional notions of excellence promote the aim of education equity? If one accepts the "resource" approach to defining excellence, there is a clear-cut conflict between excellence and equity, since the expansion of educational opportunities to more members of the society (the pursuit of equity) necessarily requires that finite resources be distributed among a larger number of individuals, thereby diluting the average investment in any given individual (overall excellence is reduced). Conversely, without an increase in the total resource pool, the only way to enhance quality ("the pursuit of excellence") is selectively to redistribute resources from one group to another (equity is reduced). Since resources are never infinite, the twin goals of equity and excellence are inherently in conflict when we embrace a "resource" conception of excellence.

Similar problems arise in the use of the reputational approach. In a decentralized, diverse, and competitive educational system such as we have in the United States, substantial differences among schools and colleges in their reputations are inevitable. Only a limited number of these institutions will emerge at the top of the reputation pecking order, and since the top-ranked schools and colleges tend to attract a disproportionate share of applicants, many persons are thus denied entry through the process called "selective admissions." In reputational terms, these rejected applicants are being denied an "equal opportunity" because they are not permitted to avail themselves of the most "excellent" opportunities. And if an institution succeeds in enhancing its reputation (becomes more "excellent"), it tends to become more selective (less equitable).

In summary, traditional measures of excellence—the reputational and resource approaches—clearly do not offer much hope of enhancing educational excellence or educational equity in our schools and colleges.

A new approach to excellence. As an alternative to traditional approaches to defining educational excellence, I would like to suggest an approach which emphasizes *educational impact*, or, as economists prefer, value-added. My impression is that sympathy for this approach has been growing in recent years. As a matter of fact, if people are given an opportunity to define precisely what they mean by educational excellence, most will respond with a definition that resembles the value-added approach. I recently had an opportunity to conduct in-depth interviews with some of our leading thinkers in higher education, and it was quite remarkable to discover that they all embrace a value-added approach to excellence.

The basic argument underlying the value-added

approach is that true excellence resides in the ability of the college or university *to affect its students favorably*, to enhance their intellectual development, and to make a positive difference in their lives. The most excellent institutions are, in this view, those that have the greatest impact—add the most value—to the student's knowledge and personal development.

In its simplest terms the value-added conception of excellence focuses on *changes* in the student from the beginning to the end of an educational program. Clearly, to know how excellent a program is in value-added terms requires some form of repeated assessment, whereby the knowledge and competence of the student are assessed at the beginning of the program and again at the completion of the program. The difference between entry and exit levels serves as a measure of growth or value added.

How well does the value-added approach satisfy our three criteria for evaluating different approaches to excellence? First of all, it is conceptually consistent with what most people have in mind when they speak of "excellent" educational programs: the enhancement of student knowledge and competency. And by focusing on the *improvement* of student performance over time, it would seem to foster excellence by emphasizing the need to employ existing resources in such a way as to maximize student learning. Of equal importance is the fact that a given college's *capacity* for excellence, in value-added terms, is not constrained by what other colleges accomplish. Thus, unlike the reputational and resource approaches, which define excellence in comparative terms, the value-added approach permits institutions to attain high levels of excellence without regard to what other institutions accomplish. (It is possible, of course, to make institutional comparisons using the value-added approach, but such comparisons would still focus on the degree of improvement in student performance that occurs in individual colleges and universities.)

And how consistent is the value-added approach with the goal of educational equity? Since excellence in value-added terms emphasizes improvement in student performance, the education of high achievers is not necessarily given higher priority than the education of middle or low achievers. Opportunities for further education are thus not denied simply because a given student is performing at a lower level than other students, and equal efforts can be made to encourage student learning at all levels. In value-added terms, then, any educational investment in a student is "paying off" as long as the student continues to show progress. Students are not denied educational opportunities simply because they happen to be performing below some "norm," and all students are encouraged to continue their formal education as long as they continue to show progress.

In actual practice, the value-added approach would work something like this. Students entering a college or university for the first time would be tested to determine their entering levels of competence for purposes of counseling and course placement. These initial "pretest" scores would be useful not only in providing both students and teachers with information about the student's specific strengths and weaknesses, but would also constitute a baseline against which to measure later student progress ("value added"). Following the completion of appropriate courses or programs of study, the same or similar tests would be readministered to measure student growth. Differences between "pretest" and "posttest" performance would provide students, professors, and administrators with critical feedback on the nature and extent of student growth and development. Results from many years of research on human learning suggest that such "knowledge of results" for both students and teachers would greatly enhance the effectiveness of the teaching-learning process.

The value-added approach does not depend on the use of any particular assessment method. Objective tests, essays, oral examinations, and many other approaches might be appropriate, depending on the content and objectives of the course or program in question. Note that the testing in this instance is done not so much to select or screen as to measure improvement over time in the performance of individual students.

"Since resources are never infinite, the twin goals of equity and excellence are inherently in conflict when we embrace a 'resource' conception of excellence."

Some critics have argued that the value-added approach, by focusing more on changes in individual students than on competitive comparisons between students, would somehow reduce academic "standards." *The value-added approach is not a substitute for academic standards, nor does it require any change in such standards.* The notion of "academic standards" ordinarily refers to the absolute level of performance or competence that students are required to demonstrate in order to earn course credits or degrees. If necessary, the

same measures used to assess "educational value-added" can also be used to define whatever exit standards the institution chooses for itself.

The advantages of a value-added approach over the traditional testing practices are of particular interest at the secondary school level. For example, the common practice of publishing average test scores on a school-by-school basis would be abandoned in favor of an approach where *gains* or *improvements* in test scores became the focal point of attention. All schools (or none, for that matter) could be "excellent" under such a system. Further, schools whose entering students scored poorly would not be unduly penalized, nor would schools whose entering students obtained relatively high scores be given ar unfair advantage.

If the value-added approach really represents a significant improvement over traditional conceptions of educational excellence, some readers may wonder, "If this idea has such obvious advantages, how come we haven't been doing it all along?" While I am not sure I know the answer to this question, let me offer a possible explanation. Since we live in a society that is both competitive and acquisitive—one where success and personal worth are often measured in terms of possessions and fame—I'm afraid that most Americans have accepted uncritically the "resource" conception of excellence. That is, we believe that the best way to improve the quality of our schools and colleges is to acquire more highly trained teachers, more money, better facilities, and well-prepared students. And educators have put so much energy into competing for these limited resources that the process of resource *acquisition* has taken precedence over consideration of resource *utilization*. As a consequence, a casual visit to almost any school or college will demonstrate that educational practitioners frequently ignore some of the fundamental principles of learning and human development. My impression is that by focusing our attention on the value-added question (How much are students actually learning?), we will be forced to apply more directly some of this neglected knowledge to current institutional policies and practices, with the ultimate aim of improving the quality of student's learning experience.

The resource approach, in other words, emphasizes what you *have*, while value-added emphasizes what you *do*. On a more subtle level, to adopt a value-added approach implies a set of institutional *values* that are quite different from those underlying the resource and reputational approaches. When it comes to the resource approach, the dominant value would seem to be acquisitiveness or, to put it less charitably, greed. When it comes to the reputational approach, the implicit value would seem to be self-aggrandizement. And these two approaches are mutually reinforcing: administrators see the resource approach—the pursuit of bright students, nationally visible faculty, research grants, and other financial resources—as a way of enhancing institutional prestige. At the same time, the enhancement of an institution's reputation is seen as a way of attracting more resources.

"Would it be legitimate. . .to conclude that a given manufacturing company was . . .excellent. . .just because it had higher-paid employees than its competitors. . . ?"

But the value-added approach connotes a very different value system. It suggests that student growth and development is the central institutional concern. And when an institution manifests its commitment to a value-added philosophy by collecting and disseminating before-and-after data on the learning and personal development of its students that institution is implicitly saying that it is open to critical scrutiny and self-examination.

Excellence and equity: some unsolved problems. I have attempted to point out that the value-added approach to excellence, unlike the reputational and resource approaches, does not limit educational opportunity by identifying only a limited number of schools and colleges as "the best." I have also argued that the value-added approach makes it possible to justify an educational investment in students at any ability level, as long as the investment pays off in the form of continued intellectual growth and development. The reputational and resource approaches, on the other hand, tend to limit educational opportunity among the less-well-prepared students by restricting entry to "the best" schools and colleges.

But merely embracing the value-added approach to excellence does not necessarily resolve all questions of equity. One fundamental issue about which little is known is the causal relationship between resource investments and "value added." How much educational value-added skill results from a given investment of financial resources? Do equal investments produce equivalent value added for students at differing levels of achievement? That is, will low-achieving students benefit as much educationally from a given investment as high-achieving students? And if greater investments are needed to produce an equivalent educa-

tional gain among low-achieving students, is the society prepared to make such investments?

Even if it could be shown that a given investment has an equal value-added payoff at all points on the achievement spectrum, virtually nothing is known about the relationship between educational value added, on the one hand, and individual and societal benefits, on the other. To what extent does a given increment in knowledge or competence lead to increased earning or greater life satisfaction? What is the payoff to the society in terms of increased productivity or reduced costs of welfare or crime? Is the ultimate societal payoff different at different points on the ability spectrum? These are clearly issues that need much further research, and public policy in the field of education will continue to operate largely in the dark as long as such questions remain unanswered.

In this essay, I have suggested that we replace traditional notions of institutional excellence based on the enhancement of institutional reputation through the amassing of resources with an approach that emphasizes the intellectual and personal growth and development of individual students. Under this "value-added" view, a high-quality institution is one that facilitates the maximum growth among its students and that is able to document that growth through appropriate assessment procedures.

How feasible is this value-added idea? While it is true that some institutions will resist the idea, it is important to realize that most of the opposition so far has come from persons associated with institutions that have high prestige and great resources. It is understandable that these institutions may feel threatened by new approaches to excellence because they feel that they stand to gain little from change and benefit maximally from maintenance of the status quo. But it seems to me that sympathy and support for the value-added idea is growing rapidly, even among some persons in our most elite institutions. Moreover, this year the American Association of State Colleges and Universities—which represents institutions that award nearly a third of all bachelor's degrees earned each year in this country—gave its prestigious G. Theodore Matau Award for institutional innovation to an institution that has actually implemented the value-added concept in its testing and assessment procedures.

The notion that schools and colleges should be focused more on the value-added question implies a concept of quality that deviates considerably from our traditional definitions. Thus, a high-quality institution under the value-added conception is one that knows what's happening to its students. Further, the high-quality institution has a student information-gathering-and-disseminating mechanism which enables it to make appropriate adjustments in programs or policies when the student data indicate that change or improvement is needed. In other words, quality is equated here not with reputation or resources but rather with a continuing process of critical self-examination that focuses on the institution's contribution to the student's intellectual and personal development.

"ACTUALLY THIS IS A VERY EXPERIMENTAL COLLEGE. WE HAVE NO CURRICULUM AND NO CLASSES. HOW IT WORKS, ESSENTIALLY, IS IF YOU WANT TO LEARN SOMETHING, YOU GO SOMEPLACE AND YOU LEARN IT."