MINUTES OF REGULAR MEETING OF THE
STATE BOARD OF HIGHER EDUCATION HELD
ON JANUARY 23, 1981

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STATE BOARD OF HIGHER EDUCATION
MINUTES OF REGULAR MEETING HELD IN
ROOM 327-328 MICHAEL J. SMITH MEMORIAL CENTER,
PORTLAND STATE UNIVERSITY, PORTLAND, OREGON

January 23, 1981

Meeting #472

A regular meeting of the State Board of Higher Education was held in Room 327-328 Michael J. Smith Memorial Center, Portland State University, Portland, Oregon.

ROLL CALL

The meeting was called to order at 10:30 A.M. (P.S.T.), January 23, 1981, by the President of the Board, Mr. Edward C. Harms, Jr., and on roll call the following answered present:

Mr. Lester E. Anderson
Mr. Alvin R. Batiste
Mrs. Jane H. Carpenter
Mr. John A. Elorriaga
Mrs. Edith Green
Mr. Robert C. Ingalls

Mr. David Lomnicki
Mr. James C. Petersen
Ms. Elizabeth Warner-Yasuda
Mr. Loren L. Wyss
Mr. Edward C. Harms, Jr.

OTHERS PRESENT

Centralized Activities--Chancellor R. E. Lieuallen; Secretary Wilma L. Foster; W. T. Lemman, Jr., Vice Chancellor for Administration; J. I. Hunderup, Vice Chancellor for Academic Affairs; Mrs. Clarelthel Kahananui, Acting Vice Chancellor for Facilities Planning; Mrs. Clarethel Kahananui, Acting Vice Chancellor for Academic Affairs; E. Rex Krueger, Vice Chancellor for Educational Systems; Melinda Grier, Compliance Officer; Richard Zita, Director, Public Services and Publications; Richard S. Perry, Director, Management and Planning Services; Charles Ereksen, Management and Planning Services; Davis Quenzer, Assistant Budget Director; Jeff Lee, Executive Director, Oregon State Scholarship Commission; Gary Weeks, Deputy Director, Oregon State Scholarship Commission; Francetta Carroll, Assistant Board Secretary.

Oregon State University--President R. W. MacVicar; Clifford V. Smith, Vice President for Administration; Sandra J. Suttie, Curriculum Coordinator and Assistant to the President; Richard Pahre, Director of Financial Aid; Miriam Orzech, Director, Educational Opportunities Program.

University of Oregon--Acting President Paul Olum; Ray Hawk, Vice President for Administration and Finance; George Sherman, University Librarian.

University of Oregon Health Sciences Center--President Leonard Laster; James T. McGill, Vice President for Finance and Administration; Mary Anne Lockwood, Executive Assistant to the President.

Portland State University--President Joseph C. Blumel; James Todd, Vice President for Finance and Administration; Orcilia Forbes, Vice President for Student Affairs; Ken Harris, Budget Director; Tom Pfingsten, Library Director.

Oregon College of Education--President Gerald Leinwand; James H. Beaird, Provost; R. John Brinegar, Director of Financial Aid.

Eastern Oregon State College--President Rodney A. Briggs; James C. Lundy, Director, Business Affairs.

Southern Oregon State College--President Natale Sicuro; Don Lewis, Dean of Administration.

Oregon Institute of Technology--President Kenneth Light; W. M. Douglass, Dean of Administration.
MINUTES
APPROVED

January 23, 1981

The Board dispensed with the reading of the minutes of the regular meetings of the Board held on October 24 and December 11 and 12, 1980, and approved them as previously distributed.

(Considered by Committee on Finance, Administration, and Physical Plant, December 12, 1980; present--Ingalls, Batiste, Lomnicki, and Wyss.)

Staff Recommendation to the Committee

In 1965 the Legislature abolished the State Board of Census and transferred its functions and duties to the State Board of Higher Education. The Board established the Center for Population Research at Portland State University, and that Center is still carrying out the Census functions as directed by the Legislature.

The Board is authorized by ORS 190.580 to adopt rules governing the conduct of the Center. It has never done so. Because cities and counties sometimes question the Center's population statistics, and at times have threatened litigation, Portland State University saw the need for rules. In 1978, rules were drafted by the Director of the Center and adopted by the President in accordance with the Administrative Procedure Act. Those rules appear to meet the needs of the Center. It was recommended that the Board adopt a rule delegating authority to the President of Portland State University to adopt rules and confirming the rules already adopted by the President, in the following manner:

Delegation of Authority for Census Functions

OAR 580-40-012 The Board of Higher Education delegates to the president of Portland State University the authority and responsibility to adopt and administer rules for the population estimation, research and reporting activities required by ORS 190.510 to 190.610. The rules adopted by the president and effective June 26, 1978, are hereby confirmed, ratified and approved.

The President's office has reviewed and approved the proposed rule.

Discussion and Recommendation by the Committee

The Committee recommended that the Board approve the staff recommendation as presented.

Board Discussion and Action

Mr. Harms said that the time set for the public hearing on the adoption of OAR 580-40-012, Delegation of Authority for Census Functions, had arrived. He noted that a communication had been received from the City of La Grande.

The Secretary of the Board read the following comments on the proposed rule as contained in a letter from Mr. Lynn Hamilton, City Manager, City of La Grande, La Grande, Oregon, dated December 9, 1980:

Others--T. K. Olson, Executive Director, Oregon Educational Coordinating Commission; David Young, Oregon Educational Coordinating Commission; Richard Moore, Chairman, Interinstitutional Library Council; Jim Lockwood, Assistant to Chairman, Interinstitutional Library Council; Thomas D. Morris, State President, AAUP; Robert Watrus, Executive Director, Oregon Student Lobby; John Moore, Legislative Assistant, Oregon Student Lobby; Jeff Mengis, President, Associated Students of Oregon State University; Dave Eaton, President, Associated Students of the University of Oregon; Jim Baumgartner, Student President, Oregon College of Education; Dave Urman, President, Association Students of Portland State University; Jeff Strickler, student, OSU; Jim Krigbar, student, OSU; Don Edmunds, student, PSU; Dennis Kinne, student, PSU; Pamela G. Reamer, PSU Vanguard; Alan Yoder, PSU Vanguard; Jeff Strange, PSU Vanguard.
The following are my comments regarding Oregon Administrative Rules, Chapter 577, Division 50: (1) Under the section entitled "City Estimates", sub-section 4, Paragraph B-c, it is suggested that a fee schedule or a formula be utilized to determine a City's expense if they choose to request the University to review enumeration data. A City should be able to determine if it will be worth their while to have the census information reviewed prior to requesting such action. (2) It is also suggested that data referring to number of persons per household be adjusted for each region of the State. Previous experiences with Portland State University point to the fact that one numerical value is assigned State-wide for number of persons residing per household. This creates an unfair disadvantage for various areas of the State which, in fact, have widely divergent per person household statistics.

Mr. Harms suggested that it would be appropriate to forward the letter to the Center for Population Research at Portland State University.

Mr. Petersen said the recommendation to the Board would include adoption of the existing rules and he was not prepared to approve those rules because he was familiar with some of the problems in dealing with the census estimates with the Center for Population Research.

In the subsequent discussion, it was stated that approval of the Administrative Rule and ratification of the existing rules would not preclude amendments to those existing rules by Portland State University.

Mr. Harms inquired whether anyone wished to be heard for or against the adoption of the proposed rule. There being no response to his request, he declared the public hearing closed.

The Board adopted OAR 580-40-012, Delegation of Authority for Census Functions, and on roll call vote the following voted in favor: Directors Anderson, Batiste, Carpenter, Elorriaga, Green, Ingalls, Lomnicki, Warner-Yasuda, Wyss, and Harms. Those voting no: Director Petersen.
DIVISION 50

CENTER FOR POPULATION
RESEARCH AND CENSUS

Authority
577-50-005 Under ORS 190.610 the State Board of Higher
Education in 1965 established a Center for Population
Research and Census (CPRC) at Portland State University
and delegated to it the state census responsibilities set forth in ORS
190.310 — 190.610.

Stat. Auth.: ORS Ch. 190
Hist: PSU 4-1978, f. & ef. 6-26-78

Purpose
577-50-010 These rules govern the procedures by which a
county or city may obtain review of a population estimate
made by the CPRC.

Stat. Auth.: ORS Ch. 190
Hist: PSU 4-1978, f. & ef. 6-26-78

County Estimates
577-50-015 (1) Population Estimate: Under ORS 190.520,
the CPRC annually estimates the population as of July 1 of
each county in the State of Oregon.
(2) First Review Period: Preliminary county estimates are
mailed to the designated county official by November 15th of the
estimate year for review by the county. Since under ORS
190.520 the CPRC is required to certify county estimates by
December 15th of the estimate year, the county has one month
for review, questions, and challenges. If differences regarding
the estimate are not resolved during the first review period, the
CPRC will certify the preliminary estimate to the Secretary of
State on December 15th of the estimate year.
(3) Second Review Period: A second review period is from
December 15th of the estimate year to March 31st of the
following year. This period is to allow counties to assemble and
present data to the CPRC that could not be assembled during the
initial review period. If differences between the county and
the CPRC are resolved during the second review period the
CPRC will issue a revised certificate of population for the
county's estimate to December 31st of the estimate year.
(4) Review Data: Counties may supply the CPRC with data
that can be used to evaluate the population estimate in
question. Acceptable data are:
(a) Housing Data. To be considered in a CPRC review,
housing data must reflect all additions to a county's housing
stock from the last decennial federal census through the date of
estimate. The data must meet the following criteria:
(A) All housing units constructed are identified by year
and month of construction and type of unit. Specifically, the
data show number of single units, number of units contained
within multiple units (i.e., apartments, condominiums,
townhouses, etc.), and mobile homes that are occupied and
used as permanent residences.
(B) Building activity reports must exclude commercial
construction and permits issued for home improvements or
modifications, unless the modification involves conversion to
another type of unit (i.e., single family unit modified to a
multiple unit). Data for each year must also show demolitions,
removals, or housing units lost (fire, etc.), conversions, and
abandonments or existing housing stock.
(C) Differences between numbers of permits issued and
numbers of actual completed units must be reported. Only
completed units can be added to the housing stock.
(D) Counties must differentiate between permits issued in
incorporated cities within the county and permits issued for
units in the unincorporated areas of the county. Additions
all units reported for construction in the unincorporated area
of a county must be accompanied by a map (of such scale as...
be easily identified) showing the location of such construction.
(b) Group Quarters Data. Counties should also report all
persons not living in households (i.e., group quarters). These
are defined as persons living in college or other educational
institution dormitories, inmates of federal and state prisons,
but only those serving term of more than one year; inmates of
long-term care facilities; members of religious orders; and
members of the armed forces living in military barracks.
(c) Utility Data: If the county chooses to supplement
housing data with utility data the following criteria apply:
(A) The utility boundaries must be entirely comparable to
the county boundaries.
(B) The coverage of the population by the utility must be
evaluated against the last decennial census household county,
but any housing units serviced by the utility in the last
decennial census year should be in general congruent with
the number of occupied housing units enumerated in the last
decennial census.
(C) Master meters must be accounted for — the meter in
use for an entire building misrepresents the number of
residential units; in addition, conversions from master meters
to individual meters must be reported.
(D) Vacant units that do not disconnect power between
occupants (such as rental units and recreational units) cannot
be reported as occupied residences.
(5) Enumeration or Survey: At any time during the first or
second review period, the county may request that the CPRC
conduct a complete enumeration or a sample survey of housing
units and number of permanent residents to determine
population of the county. The enumeration or survey,
performed at the cost of the requesting entity. If the census
survey is conducted before March 1 of the year following the
December 15th certification, this population count is certified
to the Secretary of the State and to the Federal Bureau of the
Census, and it is retroactive to December 31st of the estimate
year. The CPRC determination is final. A census or survey is
recognized as a final figure of the county's population by both
state and federal governments.

Stat. Auth.: ORS Ch. 190
Hist: PSU 4-1978, f. & ef. 6-26-78

City Estimates
577-50-020 (1) Population Estimate: Under ORS 190.520,
the CPRC annually estimates the population as of July 1 of
each incorporated city or town in the State of Oregon.
(2) First Review Period: Preliminary city estimates are
mailed by November 15 to the designated city official in each
incorporated city for review. Since under ORS 190.520 the
CPRC is required to certify city estimates by December 15 of
the estimate year, the city has one month in the first review
period for questions and challenges. Unless resolution of
differences between a city and the CPRC occurs during the
month of the first review period, the CPRC will certify the
preliminary population estimate to the Secretary of State on
December 15 of the estimate year.
(3) Second Review Period: A second review period ensues
from the December 15 certification date to March 31 of the
following year. This period allows the cities to assemble and
collect data which could not be assembled in the first revi
period. The CPRC will review additionally submitted data
notify the city whether their population estimate will
changed. If the CPRC changes the city's annual estimate, the
revision will be certified March 31 retroactive to December 31 of
the estimate year.
) Review Data: Cities may supply the CPRC with annual data that can be used to evaluate the population estimate in question. Acceptable review data are:

(a) Housing Data:

(A) Since incorporated cities provide the CPRC with annual building and demolition data by type of unit, these annual data may be reviewed by the city and by the CPRC. If the city has originally submitted incorrect building and demolition data, it must resubmit all building and demolition data broken down by month from the date of its last official census (either Federal or CPRC). The CPRC will then reevaluate the city's estimate and determine if an adjustment is to be made.

(B) Mobile home inventories may be reexamined and resubmitted for the estimate year in question if errors are found in city submitted data. The CPRC will reevaluate the city's estimate based on corrected mobile home input as of March 31 of the estimate year in question.

(c) Annexation Data: Since cities provide annexation data to the CPRC on a quarterly basis, these data may be reviewed by the city and the CPRC. If city-submitted annexation data are incomplete, the city may submit annexation questionnaires for each omitted annexation and schedules for each housing unit involved in each annexation. If there are more than 125 housing units in any single annexation, the CPRC must conduct the census of the annexation area at the city's expense. This additional population data will be used to reevaluate the city's estimate.

Utility Data: If a city chooses to supplement housing with utility data, the following criteria apply:

(A) The utility boundaries must be entirely comparable to the corporate limits of the city.

(B) The coverage of the population by the utility must be evaluated against the last decennial census household count, i.e., the number of housing units serviced by the utility in the last decennial census year should be in general agreement with the number of occupied housing units enumerated in the last decennial census year.

(C) Master meters must be accounted for — one meter in use for an entire building misrepresents the number of residential units; in addition, conversions from master meters to individual meters must be checked.

(D) Care must be taken not to count vacant rental units that do not disconnect power between occupants.

(5) Enumeration or Survey: At any time during the first or second review period, the city may request that the CPRC conduct either a complete enumeration, or, for cities with populations greater than 5,000, a sample survey of housing units. The enumeration or survey is conducted at the expense of the requesting entity. The population determined by either the enumeration or survey will then be certified to the Secretary of State and to the U.S. Bureau of the Census. It should be noted that the U.S. Bureau of the Census recognizes CPRC conducted censuses and surveys and accepts CPRC figures for their Federal Revenue Sharing estimates. Censuses or surveys conducted before March 1 of the year following the December 31 certification will be certified March 31 retroactive to December 31 of the estimate year in question. The CPRC determination is final.

Stat. Auth.: ORS Ch. 190
Hist.: PSU 4-1978, f. & ef. 6-26-78
The Chancellor stated that at the last Legislative session, the responsibility for the Oregon Educational and Public Broadcasting Service was assigned by the Legislature to the Commission for Public Broadcasting. The Board of Higher Education had veto power over actions taken by the Commission. He suggested that it would be useful for the Board to hear a review of the two-year period, and the possible actions to be taken by the 1981 Legislature. He asked Dr. Dean Anderson, Acting Director of OEPBS, to present the report.

Dr. Anderson said he would like to acknowledge the services which the Oregon State System of Higher Education has extended throughout the period of its stewardship. It has been a productive period and the accomplishments have been extensive. He particularly thanked staff members from the Board's Office who had been able to supply to the operations of broadcasting a great deal of expertise which its small staff could not have obtained in any other way. He said he was impressed by the quality of work that had been provided and the support and counsel that had been given.

The 1979 Legislature passed SB 805 which provided for a Commission on Public Broadcasting. There are a number of commissions on public broadcasting in the United States, but the one established for Oregon has a rather unusual composition. Of the eleven members of the Commission, three are appointed by the Speaker of the House, three by the President of the Senate, and five by the Governor, with the Governor selecting the chairperson. Travis Cross, a former employee of the State System of Higher Education, is the present chairman. He has given a great deal of time and effort to trying to make this transition work during this two-year period. The Commission has been occupied primarily with organizational efforts. A change was made in the directorship and after a rather extensive search, the Commission selected as the new director an eminently qualified man from WNET, one of the really big stations in public broadcasting.

Dr. Anderson said the budget has been prepared through the Executive Department rather than through the State System as in the past, although the appropriation for OEPBS is still an appropriation through the State Board of Higher Education. If there is a full separation of the Commission from the State System, it is assumed the appropriation will then be made directly to the Commission. The proposed new legislation would effect a complete severance from the State System of Higher Education. The legislation is still in draft form. It is unlikely that any savings will accrue to the Department of Higher Education by the severance of OEPBS. There will be some technicalities about the transfer of licenses under the Federal Communications Commission. Many of the personnel in OEPBS hold academic rank and are tenured, which may create problems in the separation of the Commission from the State System.

Dr. Anderson concluded by saying that there will be a number of opportunities for continued cooperation to extend learning opportunities and perhaps to increase quality.

Mr. Ingalls asked what had been done with the budget for Channel 3.

Dr. Anderson said Channel 3 is involved in the total budget but local production has been deleted. The plan had been to increase the coverage from the Channel 10 signal in Portland to handle Salem and to move Channel 3 at that point. Various factors have delayed this and may create some difficulties with the federal government in terms of the commitment to local programming. With respect to legislative coverage, the Legislature provided a special supplementary appropriation to cover its performance.
Several years ago WICHE sought and received from the Carnegie Corporation a grant for a project to pursue this objective.

One of the outcomes of the project has been a proposal to seek the establishment in five northwest states of "regional" graduate programs of high quality to which the host institution would admit graduate students from the cooperating states at resident tuition rates.

Such "regional" programs, in addition to being of high quality, must not be duplicated in more than one other northwest institution.

By identifying certain programs as "Regional Graduate Programs" it is hoped to increase region-wide access to them, enhance their efficiency, and, at the same time, make it unlikely that they will be duplicated in other institutions in the region.

The northwest states included in the project are Oregon, Washington, Idaho, Montana and Alaska.

The Project Coordinating Committee members from Oregon include, in addition to me, Loren Wyss and Tony Meeker.

At a recent meeting in Denver, 32 programs in 14 colleges and universities were tentatively approved as Regional Graduate Programs. A list of the 32 programs is attached. Twelve are in Oregon institutions, all but one in the State System.

It is expected that students from other states in the cooperating region will be enrolling in these programs for the 1981-82 academic year.

One of the conditions for final approval is that the agency having authority to establish tuition rates authorize resident tuition rates for all admitted students from the five cooperating states.

When the specific tuition rates are before you for public hearing and approval, we will be recommending that you authorize resident tuition rates for students in these programs.

APPROVED WICHE REGIONAL GRADUATE PROGRAMS

ALASKA

University of Alaska, Fairbanks

Cold Regions Studies in any one of the following fields:
- Arctic Engineering (M.S.)
- Atmospheric Sciences (M.S. & Ph.D.)
- Biology (M.S. & Ph.D.)
- Botany (M.S.)
- Fisheries Biology (M.S.)
- Geology (M.S. & Ph.D.)
- Geophysics (M.S. & Ph.D.)
- Marine Biology (M.S.)
- Mining Engineering (M.S.)
- Natural Resources Management (M.S.)
- Oceanography - Biological, Chemical, Fisheries, Physical (M.S. & Ph.D.)
- Space Physics (M.S. & Ph.D.)
- Wildlife Management (M.S. & Ph.D.)
- Zoology (M.S. & Ph.D.)
IDAHO

Idaho State University

Doctor of Arts in Political Science
Doctor of Arts in Mathematics
Doctor of Arts in English
Doctor of Arts in Biology

University of Idaho

Mining Engineering/Metallurgy (Ph.D.)
Forestry, Wildlife and Range Sciences (Ph.D.)

MONTANA

Eastern Montana College

Rehabilitative Counseling (M.S.)

Montana State University

Surface Science and Submicron Analysis (M.S. & Ph.D. in Physics)
Environmental Chemistry (M.S. & Ph.D. in Chemistry)

University of Montana

Interpersonal Communications (M.A.)
Rural, Town, and Regional Planning (M.S.)

OREGON

Lewis and Clark College

Special Education--Hearing Impaired (Parent-Infant Specialization) (M.S.)

Oregon College of Education

Correctional Administration (M.A./M.S.)
Rehabilitation Counseling with the Deaf (M.S.)

Oregon State University

Marine Resource Management (M.S.)
Foods and Nutrition (Ph.D.)

Portland State University

Environmental Sciences and Resources (Ph.D.)
Urban Studies (Ph.D.)

University of Oregon

Molecular Biology (Ph.D.)
Neurosciences (Ph.D.)
Historic Preservation (M.A.)

University of Oregon Health Sciences Center

Reproductive Biology (Ph.D.)
Human Genetics (Ph.D.)
WASHINGTON

University of Washington

Public Health (M.P.H.)
Epidemiology (Ph.D.)
Laboratory Medicine (Master of Laboratory Medicine)
Nursing Science (Ph.D.)

Washington State University

American Studies (M.A. and Ph.D.)
Polymers (M.S. & Ph.D.)
Nutrition (Ph.D.)
Clinical Psychology--Rural Mental Health Option (Ph.D.)

The Chancellor said it was his personal belief that the creation of this project and its implementation, in the event that it does get off to a good start, would make a sizable contribution to regional planning for cost effective graduate education. The regional graduate program project increases the likelihood and provides a structure to enable planning for graduate programs to consider needs within the region, not just within a state.

Mr. Wyss said this modest effort required a great deal of discussion and arguments in which the proposal was changed many times. It represents a proposal of unusual shape and great promise which will allow increased access to quality graduate programs for Oregon residents and will eliminate the need for Oregon to provide those programs. It encourages the institutions to specialize and offers some incentive for specializing and increasing the quality of their programs and concentration in areas that are already of good quality.

Mr. Wyss said the proposal would discourage the tendency that many institutions have had to try to offer everything and commented that this would be truer in states other than Oregon because most of the other states that are engaged in this program have not had the long distance planning that has occurred in Oregon. Oregon's citizens and legislators have often been very critical of higher education because of duplication of its facilities, but they do not realize that Oregon is very nearly at the top in avoiding duplication since the 1930's. Oregon is looked upon as a model by other states and legislatures in the nation.

Mr. Wyss concluded by saying that without the Chancellor's intellectual leadership, it was unlikely the grant would have resulted in the proposal reported to the Board.

In discussing questions pertaining to the resident tuition aspect of the proposal, it was indicated that the tri-state veterinary medicine program was a cooperative program, that the number of students involved would be small enough that income estimates for those students would be manageable, and that most of the programs on the list would have openings that would not be filled otherwise. Therefore, the resident tuition would be additional income in those programs.

Mrs. Carpenter asked whether there had been any joint planning for the doctoral program in nursing science. The Chancellor stated that one of the conditions of these regional programs was that there be no more than two such programs in the region. There is presently a Ph.D. program in nursing science at the University of Washington. If that program proves to be inadequate to serve the needs of the region, it would be consistent with the regional program for proposals to be developed to establish a second program. On the other hand, if the program is adequate to serve the needs of the region, it would seem to be more cost effective to have only one such program in the region.

President Laster commented that he would hope this program would not be an unreasoning deterrent to development in areas of strength. He said he endorsed the thrust of the plan but wanted flexibility in its implementation.
There was some further discussion of proposals for inclusion of both the master's and doctoral programs in nursing. Mr. Wyss summarized the regional graduate education project as a specialization concept in which every institution proposes areas of specialization that are accepted regionally.

The Chancellor reported that the Emergency Board had granted authority to spend the tuition money received in excess of the funded enrollments, amounting to $1.5 million.

In addition, the Crippled Children's Division received an allocation from the Emergency Board of approximately $150,000 which was designed to restore the program level which was removed by the reduction in federal funds.

Mr. Lemman summarized briefly the information contained in the report entitled, "Informational Review of Student Financial Aid Programs, Oregon State System of Higher Education." The report was prepared primarily by Mr. Charles Erekson, Coordinator of Management Studies in the Management and Planning Services Division of the Office of Administration. It is included as Supplement A to these minutes.

During the discussion of the report, the following points were made:

1. Financial aid information should include data on benefits under the GI Bill and under Social Security.

2. The GI Bill has not terminated but has become a contributory program under which contributions from an individual in the service are matched when the person is released from active duty and uses the funds for educational purposes.

3. The Guaranteed Student Loan Program is used less at Portland State University, partly because there are more part-time students in that institution, and this program goes primarily to full-time students. The large number of independent students makes it less likely that Portland State University students can meet bank requirements for level of income.

4. Liberalization of the financial aid programs will increase the number eligible to participate. However, it appears likely that fewer dollars will be available in some of the programs.

It was agreed that information on financial aid matters would be useful in connection with discussion of tuition policies. The Board requested that Mr. Jeff Lee, Executive Director of the State Scholarship Commission, be invited to present the overall picture with respect to financial aid. In addition to his presentation, the Board asked that specific financial aid information be available when the Committee of the Whole continues the tuition discussion on February 27, 1981. No further action was required at this time.

Mrs. Carpenter said the Board had referred to the Committee on Instruction, Research, and Public Service the issue of whether there should be a Blue Ribbon Commission to examine the State System of Higher Education and assess its level of funding and other matters.

In exploring the kinds of information which might be needed, the possibility was discussed of assessing the seriousness of the situation in various enterprises in the State System as a whole. For example, two or three people might assess the situation with respect to rehabilitation of buildings. A second group of consultants might assess the situation in the libraries, a major priority of the Board. Faculty salaries and equipment might be other areas of study. Mrs. Carpenter indicated she had conferred with Mr. Ingalls about the possibility of considering the matter of consultants in a meeting of the Committee of the Whole, rather than in the Instruction Committee.

Mr. Wyss suggested that the two Committee chairmen and the President determine the Committee to which the discussion should be assigned.
Mr. Elorriaga proposed that three members of the Board, and two others from outside the Board, perhaps previous members of the Board, might be designated to fulfill the Chancellor's suggestions for study of various aspects of the State System.

Mr. Harms said the Committee had been asked to propose a list of questions and the manner in which they might be studied.

Mr. Anderson commented that the issue was whether the study was to be broad-based or specialized, and once that decision was made, which Committee would supervise the investigation.

Mr. Harms said there would be merit in referring the matter to the Committee of the Whole because there were two issues--(1) the questions that should be asked if the original proposal by the Chancellor were narrowed to more specific issues; and (2) how the investigation would be performed. The study could be done by Board subcommittees; by special outside committees composed of Board members and others, as suggested by Mr. Elorriaga; by outside consulting assistants with expertise in the field; or by some other agency.

The Chancellor concurred with the suggestion that a Committee of the Whole consider the issues stated in the discussion.

Mr. Wyss said the suggestion of using experts was quite different from the special commission proposed earlier. He supported the concept of including Board members to work in conjunction with experts.

Mrs. Green stated that she had interpreted the study as a very broad overview of the Board of Higher Education and its direction. She said she believed there were deep policy questions that required long-term study.

Mr. Harms concurred but indicated that this could be part of the discussion of the questions to be studied.

It was agreed that the Board would discuss these matters as a Committee of the Whole in conjunction with a dinner meeting on February 26, 1981, preceding the regular Committee meetings on February 27.

Summary and Staff Recommendation to the Board

It was recommended that the Vice Chancellor for Facilities Planning be authorized to purchase the property at 1680, 1686 and 1690 Moss Street and 1791 East 17th Avenue, Eugene, from H M & C Investments, a partnership, at the option price of $125,000. This property, which contains approximately 0.211 acres improved with ten rental units, is located within the approved projected campus boundaries of the University of Oregon and is expected to be utilized for student housing. The purchase would be financed from proceeds from the sale of self-liquidating bonds issued under the provisions of Article XI-F(1) of the Oregon Constitution and would be charged against the expenditure limitation for auxiliary enterprise land acquisition authorized by Chapter 511, Oregon Laws 1979.

Board Discussion and Action

The Board approved the staff recommendation as presented, with the following voting in favor: Directors Anderson, Batiste, Carpenter, Elorriaga, Green, Ingalls, Lomnicki, Petersen, Warner-Yasuda, Wyss, and Harms. Those voting no: None.

Staff Report to the Board

On January 17, 1981, Mr. Larry G. Campbell of H M & C Investments executed a 60-day option for the sale of the property at the northwest corner of the intersection of 17th and Moss Streets, Eugene, to the Board in the amount of $125,000. The option price is less than the average of two independent appraisals obtained recently by the institution, one from J. Richard Larson and the other from Laurence A. Holt.
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The property contains approximately 9,174 square feet of land, or 0.211 acres, with 83.4 feet fronting on Moss Street and 110 feet on 17th Avenue. It is improved with ten rental units which would be continued in use pending other development of the property at some future time. The parcel is the last one in the double block bounded by 15th, 17th, Columbia and Moss Streets not yet owned by the Board. It is within the area of the campus designated for student housing.

The ten living units are contained within two wood-frame residential structures. One of these, which has addresses of 1686 Moss, 1690 Moss and 1791 East 17th, is basically a one-story dwelling with a finished attic and partially finished basement with a total enclosed area of approximately 2,330 square feet. The main level contains a living room, kitchen, bath and three bedrooms. Each of the other two living units in this structure is a studio apartment containing a living room/bedroom, kitchen and full bath. The other structure, which uses the address of 1680 Moss, may be described as a two-story building with a finished attic, an attached utility room and an attached garage which has been converted into an apartment. The seven living units within this structure contain a total of approximately 2,448 square feet exclusive of the 10' x 12' common utility room attached to the south side of the ground level. Both of the apartments on the main floor have a living room, kitchen, bedroom and bath. Each of the two units on the second floor contains a living room, kitchen and bedroom, and there is a community shower and a separate toilet room on this level. The two studio apartments in the attic have a kitchen and a living room/bedroom. The converted garage is a studio apartment with living room/bedroom, small kitchen and bath. Although the general condition of the improvements is poor, the current rentals are reported to be approximately $1,755 per month.

The acquisition of the property would conform to the policies of the Board, as outlined within AR 580-50-015, which prescribe that land within the established projected campus boundaries of an institution should be acquired whenever offered for sale by an owner if sufficient resources are available and the option price is in line with current market values determined by two or more independent appraisers. Whenever the purchase price exceeds $25,000, Board action is required before the Vice Chancellor for Facilities Planning is authorized to accept the option on behalf of the Board. Funds required for the purchase of the property are to be provided from proceeds available from the sale of bonds under the provisions of Article XI-F(1) of the Oregon Constitution. The cost would be charged against the expenditure limitation of $500,000 authorized by Chapter 511, Oregon Laws 1979, for the acquisition of land. One-half of this expenditure limitation is applicable to land for auxiliary enterprises and the remainder relates to land for the educational and general plant. (The Governor’s budget recommendations for 1981-1983 include an additional expenditure authorization of $300,000 for land acquisition exclusively for auxiliary enterprises.)

Summary

To cover approximately 75% of the estimated cost of $158,190 for relocating the main transmitter of Radio Station KSOR for Southern Oregon State College from Mt. Baldy to King Mountain, an application has been filed with the National Telecommunications and Information Administration.

Staff Recommendation to the Board

It was recommended that the Board ratify the action of the Secretary of the Board in submitting a grant proposal on January 19, 1981, to the National Telecommunications and Information Administration within the U. S. Department of Commerce for grant assistance of approximately $118,642 for three-fourths of the estimated cost of $158,190 to relocate the main transmitter of the FM Radio Station KSOR at Southern Oregon State College. The State matching fund requirements are expected to be provided from contributions of approximately $24,968 from the KSOR Listeners Guild and from $14,580 of in-kind services to be supplied by station personnel in connection with the installation.
of the equipment. In addition, the Guild would finance the cost of constructing a minor addition to an existing structure on King Mountain, estimated at a maximum of $15,000, which is not eligible for federal participation.

Board Discussion and Action

The Board approved the staff recommendation as presented, with the following voting in favor: Directors Anderson, Batiste, Carpenter, Elorriaga, Green, Ingalls, Lomnicki, Petersen, Warner-Yasuda, Wyss, and Harms. Those voting no: None.

Staff Report to the Board

In order to meet a filing deadline of January 19, 1981, the Secretary of the Board filed an application which officials of Southern Oregon State College prepared for submittal to the National Telecommunications and Information Administration for financial assistance in the amount of $118,642 to cover approximately 75% of the estimated cost of relocating the main transmitter of Radio Station KSOR at Southern Oregon State College from Mt. Baldy to King Mountain. The application included a caveat that it is subject to review by appropriate State agencies such as the Board and the Joint Committee on Ways and Means pursuant to ORS 291.375.

Currently, the station's transmitter is located on a site on Mt. Baldy which is leased until 1985. The property was sold recently and it is clear that the new owner does not intend to continue to allow the station's use of the property on the present favorable terms after the lease expires. It is important that arrangements be made to relocate the transmitter as soon as possible because existing options will narrow as the spectrum undergoes increasing use. To provide the station's present coverage area with signal, including KSOR translators, and also provide a clear signal to Ashland, the city of license, institutional officials have indicated that King Mountain is the only prepared facility (with power and roads) which presently would fulfill these needs. Public station KSYS-TV has just completed the construction of a building and tower on that site under a prior NTIA grant and has offered to share its facilities with KSOR. The property is controlled by the Bureau of Land Management.

The project would involve the erection of a new tower on King Mountain and the expansion of the KSYS building to house the KSOR equipment. KSOR is proposing a directional antenna pattern for King Mountain which would accentuate coverage to the south of King Mountain and reduce coverage to the north. This pattern is selected to provide reliable service to existing translator areas. Following extensive technical research by consulting engineers, McClanathan and Associates, KSOR proposes the use of a new style FM antenna which would reduce any interference to the point of negligible concern to other users, is more economical of tower space (and therefore tower costs), and also represents a real advancement in the art of FM broadcast technology.

Prudent management requires that an alternate site be identified sufficiently early in order to secure the financing, land, and spectrum space for the proposed relocation of the transmitter prior to the expiration of the Mt. Baldy lease. Additionally, it appears likely that any grant support of NTIA for projects of this nature in subsequent periods would be limited to 50% rather than the requested 75% participation. The existing transmitter facilities would be retained on Mt. Baldy until the expiration of the present lease in 1985. They would serve as standby for the King Mountain installation in the event of a failure in the station's main transmitter. Institutional personnel have indicated that it would be more cost-effective to keep the present equipment on Mt. Baldy than to move it to King Mountain for standby purposes. The resale value of the present equipment is not high.
Because of additional power consumption and travel to the proposed site on King Mountain, it is anticipated that the annual operating costs of KSOR will increase approximately $6,500, but the station expects to expand its coverage into parts of southern Oregon not presently served by any public radio service and will, therefore, develop new support to offset these costs. Shared maintenance costs with KSYS would also present a cost-effective opportunity for reducing station operating costs.

Applications for FCC approval of the new transmitter site must be processed before the relocation project can be accomplished. Tentatively, upon the assumption that the funds will be available late in 1981, and that the concurrence of the FCC is obtained, bid documents will be prepared so that contracts can be awarded in 1982 and the proposed facilities can be placed in operation before January 1, 1983.

1979-80 Review of Graduate Programs In Geology, Computer Science, Mathematics, And Statistics In Oregon's Three State-Supported Universities

(Considered by Committee on Instruction, Research, and Public Service Programs, December 12, 1980; present--Carpenter, Anderson, Green, Harms, Petersen, and Warner-Yasuda.)

The Board of Higher Education has instituted regular and systematic reviews of graduate programs under its jurisdiction.

The 1979-80 review, covering graduate programs in geology, computer science, mathematics, and statistics has been completed. This review represents the final phase of a three-phase review of graduate programs offered at more than one of the State System institutions in the same discipline. The following is a listing of the specific programs reviewed:

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<tr>
<th>University</th>
<th>Master's Programs</th>
<th>Doctoral Programs</th>
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<td>University of Oregon</td>
<td>Geology</td>
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<td>Computer and Information Science</td>
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<td>Oregon State University</td>
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<td>Statistics</td>
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<td>Portland State University</td>
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<td>Mathematics</td>
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A report of the results of the review is presented herewith to the Board for its consideration and action.

Staff Recommendations

The staff recommended that the Board:

1. Accept the report of the review of graduate programs in geology, computer science, mathematics, and statistics.

2. Authorize continuation of the programs at the three universities.

   a. All the programs are of sound basic quality.

   The faculties in these programs are relatively strong; the programs are well-conceived and clearly related to institutional goals. While recommendations were made for improving the quality of the programs reviewed, most particularly with respect to the need for some graduate fellowships for outstanding students, maintenance funds for repair or replacement of instruments, mini-computers in the computer science departments, additional faculty in some departments to reduce heavy teaching loads, and increased support for colloquium speakers, it is clear that the consultants found the programs reviewed of sound quality.
b. The programs are making valuable contributions to the state and
the nation in research and in providing needed manpower at an
advanced level for colleges and universities, business, industry,
government, and non-profit organizations.

Placement of graduates is good; practically all of the graduates
have been placed in positions directly related to their area of
specialization. There is an undersupply both in Oregon and
nationwide of master's and doctoral graduates in geology and
computer science. Employment opportunities are good for graduates
in statistics, particularly applied statistics. In mathematics,
there has been a marked reduction in the number of Ph.D. graduates
in mathematics over the past five years so that a slight oversupply
in the number of beginning Ph.D. graduates for the academic
market has become an undersupply. In computer science, there
are more than a dozen positions for every student graduating
with the master's degree and more than 40 positions for every
graduating Ph.D. student.

Enrollments and degree production in these fields are reflecting
societal needs. There has been a marked increase in graduate
enrollments and the number of degrees granted over the past five
years in geology and computer science; mathematics and statistics
have experienced some decline.

c. There is no unnecessary duplication or overlap among the programs.

The graduate programs in geology at the three universities differ
distinctly in scope, emphasis, and mix of students. Each faculty
group differs significantly from the others in its basic pattern of
teaching, research, and consulting activities. The University of
Oregon program has a heavy emphasis in basic research, Oregon
State University's growing research program is strongly oriented
to the needs of industry, and Portland State University is active
in research related to local and regional problems.

In computer science, there is no overlap of programs at the
doctoral level, since only Oregon State offers the Ph.D. program
in computer science. Both the University of Oregon and Oregon
State University departments are desperately trying to be respon­
sive to ever increasing demands in instruction and research. The
consultants made the point that even authorization of a Ph.D.
program in computer science at the University of Oregon would
not be adequate to meet state needs for highly trained computer
professionals.

In mathematics, although the programs are similar in many respects,
the emphases are different. The University of Oregon program
stresses theoretical and pure mathematics; Oregon State University
emphasizes application of mathematics theory. The master's
program at Portland State University is broadly based to meet the
needs of students, both traditional and non-traditional, in the
Portland metropolitan area.

There is little duplication in statistics. Only Oregon State Univer­
sity, with separate mathematics and statistics departments, offers
master's and doctoral degrees in statistics per se; at the University
of Oregon and Portland State University statistics is a component
of the programs in mathematics.

3. Continue to seek a modest but critical improvement in state support to
provide the following:

a. Two or three graduate fellowships in each department for outstand­
ing students.
b. Maintenance funds in the geology and computer science departments for the repair or replacement of delicate instruments, and funds for a laboratory technician in each department to maintain and upgrade the equipment.

c. A midi- or large mini-computer for the computer science departments at the University of Oregon and Oregon State University.

d. Expanded support for colloquium speakers, professional travel, and purchase of books.

Recommendations for seeking additional state support for faculty research activities and student assistantships were made by consultants in both the 1977-78 and 1978-79 graduate program reviews. The 1977-78 consultant recommendations resulted in approval by the Board of Higher Education of a program improvement request for the 1979-81 biennium for one million dollars to support non-sponsored research in the State System colleges and universities. The request was not funded.

A similar program improvement request for one and a quarter million dollars for the support of research in State System institutions has been included in the 1981-83 budget. The consultants have been unanimous in the assertion that a relatively small outlay of additional state support in certain strategic areas at the three universities would return disproportionate benefits to the state in terms of better education and economic growth.

4. Encourage the University of Oregon to review the advisability and feasibility of instituting a doctoral program in computer and information science.

The consultants indicated that authorizing the University of Oregon to offer the Ph.D. degree in computer science would help to meet the extraordinary need for highly trained computer professionals in Oregon. It would also help to strengthen the departmental research program, help to attract and retain top-flight faculty, and attract high quality students in a very competitive market.

The University of Oregon computer and information science department has developed a proposal for a Ph.D. program. The proposal is now under institutional and faculty review. The University of Oregon administration reports development of a Ph.D. program in computer science is of high priority, but that provision for appropriate support for the program will take careful planning and reallocation of institutional resources.

5. Encourage the respective institutions to review actions needed to respond to recommendations of the consultants and to the extent this is possible within resources available to correct weaknesses identified in the programs and maintain and improve their quality.

The following are illustrative of such consultant recommendations:

a. Need for the University of Oregon to review its policy regarding proportion of indirect cost monies recovered by the University from outside grants to be returned to the department generating the funds.

b. Need for increased space for computer science and mathematics facilities at Oregon State University.

c. Need for a university-wide committee on statistics at the University of Oregon to organize and coordinate all statistics courses within the University.
In all of the programs reviewed, the consultants emphasized the need for additional staff to reduce unduly heavy faculty loads and the need to improve faculty salaries so that the departments can continue to retain and to compete for top-flight faculty. In geology, computer science, and statistics, fields with rapidly expanding manpower and research needs, competition for highly qualified faculty is particularly keen. In mathematics, with heavy instructional services to other departments, student-faculty ratios are also relatively high, and average faculty salaries are approximately at the 25th percentile for peer group institutions.

In the view of the consultants, the graduate programs which have been reviewed over the past three years are serving the State of Oregon well and effectively. However, current budgetary restraints are making it increasingly difficult to maintain the quality of these programs. Quality in graduate education can be lost very quickly. Further deterioration of state support for research, library acquisitions, repair and replacement of teaching and research equipment, and adequate staffing at competitive salaries will result inevitably in a loss of the cutting-edge of quality that is essential if these programs are to continue to contribute to the educational and economic well being of the state.

Discussion and Recommendation by the Committee

Staff members from the various departments and institutions involved in the review were present to provide information concerning the review or the conclusions reached by the consultants.

Mrs. Green inquired as to policies in respect to the distribution of indirect cost monies. She said she noticed several references in the reviews to the fact that funds for indirect costs did not accrue to the departments which generate the funds. Dr. Richard Hill, Acting Vice President for Academic Affairs and Provost at the University of Oregon, said the indirect cost income goes to a variety of general university functions as well as to some specific departmental functions. Some of the money goes for the maintenance of the physical plant and for supplies and services. Other funds are applied to administrative functions within all levels of the University, and some funds are returned to activities like the Science Services Center. Some indirect cost earnings are not under the control of the institutions but of the entire system.

The Chancellor explained that occasionally when authorization is requested from the Emergency Board to spend overrealized indirect cost recoveries, that authority is not granted and the funds are held, thus becoming general state resources, sometimes being allocated back to the State System for over-enrollment. In this process, the indirect cost recoveries become diverted to purposes other than those for which they were intended. Another factor is that a percentage of this money is used to offset additional costs related to centralized activities in the administration of gifts, grants, and contracts. In addition, the amounts of indirect cost reimbursements which exceed the estimates are in fact used for general System purposes, not by the Board's decision, but by the decisions of state government.

The Chancellor said the practice several years ago was to treat indirect cost recoveries as a reduction of expense, which meant that they were outside of the expenditure limitation. If an institution received more indirect cost reimbursements than were estimated, it automatically was able to spend the money. If it had fewer reimbursements, expenditures had to be cut. The Legislature and the Executive Department agreed that reduction of expense accounting was not a good practice and began treating the indirect cost recoveries as income. The money was lumped with tuition and other fees to provide the "other funds" shown in the budget.
When indirect cost reimbursements increase, the cost of doing business in the administration of gifts, grants, and contracts increases. Hence the expenditures should go up at the same rate the income increases, but often this has not occurred. The Legislative Fiscal Office has recommended, during at least the last two biennia that because they believe indirect cost recoveries have been underestimated, those estimates should be increased, but without a compensating increase on the expenditure side. The consequences of that are to put the indirect cost recoveries into the general State System income which then gets commingled with tuition and distributed to pay general expenses. The fact is that if it is true, as assumed, that there is a one-to-one relationship between the cost of doing business in gifts, grants, and contracts, and the volume of gifts, grants, and contracts, and if there is no commensurate increase in the expenditure levels, the net effect is to take money from instruction and move it to the administration of gifts, grants, and contracts.

The Chancellor said that in looking for sources of income to meet the reduction in the General Fund appropriation during the Special Session, the indirect cost recoveries were taken in order to reduce what otherwise would have been budget cuts at all of the institutions. The indirect cost recoveries at the University of Oregon and the University of Oregon Health Sciences Center were particularly large.

In response to a question from Mrs. Green concerning federal regulations on the percentage of indirect costs, it was indicated that the percentage varies. These amounts are negotiated. Usually two bases are used—(1) the salary and wage base; and (2) what is termed the modified total direct cost. The latter includes all of the direct costs with the exception of some subcontracts and equipment.

Mrs. Green also questioned whether grant recipients would be more frugal in the expenditure of funds if the money saved were returned to the department. Dr. John Byrne, Vice President for Research and Graduate Studies at Oregon State University, said that most faculty regard indirect costs as a burden which detracts from the actual money available for their activity. These represent real costs that are handled differently by different agencies of the federal government. Dr. Byrne said there has been a policy at Oregon State University of returning a portion of the indirect costs to the schools and departments for the administration of the grant and contract activities. Dr. Hill said the present practice at the University of Oregon is currently under discussion and he would like to see a larger percentage of the indirect costs returned to the generating units. He said it was unlikely there would be much change in the accountability structure of the utilization of these funds.

Dr. Norman Savage, Head of the Department of Geology at the University of Oregon, said it was absolutely essential that the schools and departments receive some of the indirect cost recoveries, not just to encourage researchers to apply for larger grants, but simply to maintain the ones presently in existence.

Mrs. Clarethel Kahananui said the procedures at both Oregon State University and the University of Oregon had developed over the years. The University of Oregon is examining its policy, but budgetary changes of this nature are difficult to make rapidly, especially in a tight budget situation. She said that in the opinion of the consultants, if an institution is interested in generating grants which do support the quality of education, especially at a major research university, it is necessary to reward the department for the effort put forth in generating the grants.

Dr. Stanley E. Rauch, Dean of Graduate Studies and Research at Portland State University, said the indirect cost funds were really an earned return of the departments because they were being asked to develop outside resources that were being used for academic educational training. Graduate assistants work on actual research problems aided by skilled researchers who must continue to revitalize grants and generate proposals that are finally accepted.
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It is important for all the universities in Oregon to institute the practice of returning money to the departments. Dr. Hill said he agreed generally with returning funds to the units but there was a prior problem of gaining control of the money earned at the level of the Legislature.

Mrs. Green said she believed that an effort should be made to change the procedure with the Legislature. The Chancellor said a paper had been developed and presented to the Executive Department on the administration in gifts, grants, and contracts which addressed the logic of the discussion. Assurance was received from the Executive Department that insofar as the Ways and Means review of indirect cost reimbursements was concerned, the Executive Department would support the position that a one-to-one relationship does in fact exist. If efforts were made to increase estimates without a concurrent increase in the program level, the Executive Department will give full support to the Board's position. Assurance to that effect has not yet been received from the legislative department.

It was generally agreed by institutional representatives that equipment and salaries were of major importance in geology. Another important recommendation was for additional money for maintenance and repair of equipment and for technicians.

In discussing computer science, the representatives from the institutions stressed the need for faculty, equipment, and space to meet the growing demand for computer instruction and services. It was stated that personnel trained in computing are in great demand across the nation and adequate training programs to meet the demand are of great importance.

Mrs. Green asked whether the presidents have the authority to put funds into a computer science department rather than in departments which have a surplus of people. Dr. Hill replied that it was not a matter of withholding funds but of actually taking them from another department. Mrs. Green said it would seem advisable to take funds from those which had an over-supply of graduates in terms of jobs available and to put the money into computer science training programs where the demand was so great. Dr. Hill responded that to dismantle a program temporarily could be somewhat dangerous because it is difficult to move people among various areas in rapid response to an existing market. In addition, a present surplus in a given field might become a deficit within a few years.

Dr. Rauch noted that for several years Portland State University has required each unit to return 2% of its budget to a central pool and then prepare a very formal statement of need in order to recover that 2%. This mechanism has contributed significantly to moving faculty positions among the different areas.

President MacVicar said the institutions regularly allocate resources on the basis of projected workloads as they shift in response to student demand. It is difficult to do and is a slow process, but it does occur. The presidents do have substantial fiscal authority and responsibility. He pointed out that in field after field there are serious problems in filling vacancies because persons of adequate quality are not available. He said the presidents have flexibility, but when the Legislature, the Board, or the Chancellor specify expenditures for a given purpose, the institutions respond to that direction.

Comments by staff with respect to the review of mathematics were similar to those for computer science in terms of staff, salaries, and expansion. The recommendations were in line with the priorities noted in the departments. Funds to bring outside experts to Oregon on a regular basis would be a relatively inexpensive way to improve the mathematics program significantly because it would keep staff and students abreast of activity elsewhere. It was also noted that opportunities for cooperative programs in mathematics among State System institutions were inhibited by the differences in the emphasis in the various programs.

The Committee recommended that the Board approve the staff recommendations as presented.
Board Discussion and Action

Mr. Ingalls asked whether the consultants were looking at duplication in reviewing these programs and what they had determined with respect to duplication. Mrs. Carpenter responded that the consultants had been charged with advising the staff and the Board concerning the issue of duplication. So far, in all three areas, no consultant has thought that programs offered in any two institutions were duplicative in emphasis or approach. It was indicated also in response to questions that the consultants were chosen from lists suggested by the departments and they received a substantial amount of material about the programs to be reviewed prior to coming to Oregon as consultants.

Mr. Harms commented that of the twelve programs reviewed so far, at least nine, and perhaps ten, have been regarded as outstanding by the consultants.

The Board approved the Committee recommendation as presented, with the following voting in favor: Directors Anderson, Carpenter, Elorriaga, Green, Ingalls, Lomnicki, Warner-Yasuda, Wyss, and Harms. Those voting no: None. Directors Batiste and Petersen were absent from the meeting at this time.

Staff Report to the Committee

Background, Purposes, and Methods of the Review

In response to the interest of the Board of Higher Education in extending and strengthening the review of existing programs in the State System, particularly graduate programs, the Board's Office of Academic Affairs, working in cooperation with the State System institutions, has instituted certain program review activities over the past five years.

In 1975-76, a review was made of 37 graduate low degree-conferral programs at the three state universities. It consisted of an examination of all master's degree programs granting an annual average of three or less degrees and those doctoral programs granting an annual average of one or less degrees over the most recent five-year period. On the basis of the review, the Board decided that 17 of the programs should be continued; four were to be continued for a three-year period after which time further continuation would be contingent upon the fulfillment of certain requirements; the five master's and five doctoral programs in the school of pharmacy at Oregon State University were consolidated into a single master's and a single doctoral program; five programs were terminated; and one was suspended.

In 1977-78, a review was made of graduate programs in physics, chemistry, biology, and environmental sciences and resources at the state universities as the first phase of examining graduate programs offered at two or all three of the universities that are ostensibly similar (in the same discipline).

In 1978-79, the graduate programs in political science, sociology, economics, urban studies, and geography were reviewed, constituting the second phase of the review of graduate programs offered at more than one of the state institutions in the same discipline.

This present review of the graduate programs in geology, computer science, mathematics, and statistics represents the third and final phase of the review of graduate programs offered at two or all three of the state universities in the same discipline:

\footnote{The doctoral program in systems science at Portland State University was included in the initial phases of the 1979-80 review. However, one of the two consultants scheduled to come to Oregon to evaluate the program became ill just prior to the time of the visit. We had planned to carry through on the consultant evaluation of the system science program at PSU during this fall term, 1980. The recent budget cutbacks have made it necessary to postpone the evaluation at least until the fall of 1981.}
Purposes of the Review

The purposes set for the review of the graduate programs offered in more than one of the State System institutions in the same discipline are three-fold:

1. To determine the extent to which the programs in a particular field at the various institutions are unique and mutually reinforcing, complementary, or similar.

2. To assess (a) the degree to which each program meets Oregon's and the nation's needs for advanced scholarship, research, and public service in the respective disciplines; and (b) the degree to which the program meets the needs of Oregon residents for advanced preparation in the respective fields from the standpoint of numbers of qualified applicants, numbers of students served, and the employment of students following completion of the programs.

3. To determine the strengths and weaknesses of each program in view of objectives of the program, national trends, and quality criteria.

Method of Review

In setting up the methods and procedures for the review, the following steps were considered basic:

1. The Board's Office would bring together and collate from the appropriate departments and university officials essential information about each graduate program under review.

2. Outside consultants, with national and international reputations in the fields under review, would be used to get objective and expert appraisals of the nature and quality of the programs.

3. The Board's Office would make its analysis and recommendations taking into account the basic information collected and the comments and appraisals of the consultants.

Below, we present a summary of the results of the reviews of graduate programs in geology, computer science, mathematics, and statistics.

Also included in the full report to the Committee are the consultant reports given in their entirety, and the institutional responses to the consultant reports, and complete program summaries with the salient characteristics of each program, including data about faculty and students. The full report is on file in the Board's Office.

Summary of Results of Review

We present here a brief summary of the results of the assessment made of the graduate programs in geology, computer sciences, mathematics, and statistics. Included are the consultants' appraisal of the quality of and the need for the programs, and the consultant recommendations.

Graduate Programs in Geology

Quality of the Programs

University of Oregon. The following were the major conclusions drawn by the consultants concerning the quality of the master's and doctoral programs in geology at the University of Oregon:

- The faculty is relatively strong in teaching and basic research. The research orientation is deliberate, and the extensive publications of the faculty have given the department widespread recognition in several fields. Recent additions of able young faculty provide some assurance that the department's strength and recognition in research will continue.
The department is attracting and enrolling some graduate students from the top 10 percent of the nation's graduating seniors in the earth sciences. Many of the students come with records of good work at major research centers elsewhere in the United States. In spite of strong efforts to attract more of the top students, the department is somewhat discouraged by its lack of success in attracting more top-level students to the program.

The University of Oregon program in geology is sound and well-balanced. The mineralogy-petrology-geochemistry specialty area is particularly strong. Outside research grants and contracts held in 1978-79 totaled more than $2 million. There was a noticeable commitment to good teaching.

Library facilities are barely adequate. It was reported at the time of the consultant visit (spring 1980) that library holdings had not been augmented by so much as a single volume for more than a year.

Laboratory facilities are barely adequate for present levels of research. Any substantial increase in research, however, would seriously overload these facilities. Computer facilities and instructional space are adequate.

Oregon State University. The following are consultant observations concerning the quality of the master's and doctoral programs in geology at Oregon State University:

The Oregon State University faculty in geology is able, with a growing involvement in research. Some important research capabilities have been vigorously developed during the past decade, with a very large yield of worthy publications in several areas. The geology faculty as a whole, however, is not as yet as strong in research as the geology group at the University of Oregon. On the other hand, the Oregon State University group maintains closer ties with industry, with attendant favorable influences on faculty consulting and the employment of graduates.

The students, as a group, tend to be disciplined and professional in orientation, and heading for specific career objectives. Like the University of Oregon geology department, the Oregon State University department is making extraordinary efforts to upgrade the quality of its students. Occasionally the department is successful in attracting students from the top 10% of the nation's graduating seniors in geology. Lack of greater success is attributed by both the University of Oregon and Oregon State University departments in large measure to insufficient funds for teaching assistants and research assistants.

The geology program is sound, relates well to institutional goals, and provides luster to the overall program in science at Oregon State University. It is strongly interdisciplinary, relating particularly to such programs as oceanography and geography. The research program is growing with research grants and contracts totaling approximately $700,000 in 1978-79. Students indicated general satisfaction with the teaching program.

Library facilities are barely adequate. Laboratory facilities are barely adequate, but any substantial increase in research would seriously overload present facilities. Computer facilities and classroom and instructional space appeared to be adequate.

Portland State University. The following were the major points made by the consultants concerning the quality of the master's program in geology at Portland State University:

The faculty has a strong commitment to teaching and is effective in its efforts. The level of research activity is much lower than at either the University of Oregon or Oregon State University. However, the
faculty is more active than its counterparts at the other two universities in consulting and working with local industry in response to lively demand for its services in and near the metropolitan area. The department is doing a good job of satisfying the public's need to know about the earth sciences and their direct bearing on the welfare of Oregon citizens. The eruption of Mount St. Helens has focused attention on this need, and the Portland State University faculty and students have acted as knowledgeable scientific experts in explaining this event to people in the metropolitan area.

The students in the master's program in geology at Portland State University come largely from the Portland area (83% of the MS/MA students in fall 1979 received their baccalaureate degrees from Oregon institutions). The students are highly motivated, many have had work experience and are aware of the direct value of advanced studies in the geosciences in their professional work.

The program of instruction is sound and well-designed to meet the need for advanced studies in the geosciences in the Portland metropolitan area. Students react favorably to the program. With no Ph.D. program, the department is nonetheless active in research related to local and regional problems.

Library holdings are inadequate; resources are insufficient to respond even to urgent requests. Computer and classroom facilities are adequate; laboratory facilities barely adequate.

Need for the Programs

The need for well-trained earth science graduates is on the rise and will continue into the foreseeable future. The present world situation with respect to energy and mineral resources, the environment, and special problems such as climate modification and waste disposal has brought earth sciences clearly into focus as a discipline necessary to national welfare, if not to survival. The geosciences programs at the University of Oregon, Oregon State University, and Portland State University are providing urgently needed manpower at an advanced level in these vital areas.

The University of Oregon has conferred an average of 6 master's and 2 doctoral degrees in geology per year over the past five years; Oregon State University has averaged 10 master's and 2 doctoral degrees, and Portland State University, 4 master's degrees per year for the same period.

Applications for admission to graduate study in all three departments are high (in 1978-79, the UO admitted 32%, OSU 45%, and PSU 94% of the applicants for admission).

The demand for advanced work in geology is growing. Although academic employment opportunities in geology are somewhat limited, particularly for master's graduates, job opportunities in research and nonresearch positions in business, industry, government, and nonprofit agencies are plentiful (all of the 13 Ph.D. graduates in the last three years obtained either academic or research positions). Those with master's degrees are virtually assured of employment in mining, petroleum, and engineering geology. The consultants noted that many graduates from the University of Oregon and Oregon State University are now holding important positions in teaching, government, and industry. Some have attained high stature in the research community, and already an impressive number of Portland State University graduates can be identified with nonroutine professional employment.

The faculties and students in all three departments are playing a vital role in conducting research and providing needed consultative services in the geosciences.
Duplication of Programs

The programs are similar in many respects, for they necessarily provide coverage in the same basic fields, but there is no unnecessary overlap, and they are distinctly different in shape, scope, and emphasis. Moreover, they can readily be perceived as evolving in directions that do not converge.

Each faculty group differs significantly from the others in its basic pattern of teaching, research, and consulting activities.

The University of Oregon program has a heavy emphasis in basic research, Oregon State University's growing research program is strongly oriented to the needs of industry, and Portland State University is active in research related to local and regional problems.

The mix of geoscience students differs, in terms of interests and career objectives, among the three institutions. The present student group at the University of Oregon is relatively the most science- and theory-oriented, the group at Oregon State University is the most professional and disciplined in outlook, with most of the students heading for specific career objectives, and the Portland State University students, many of them with related work experience, are keenly aware of the direct value of advanced studies and degrees in meeting their professional needs on the job and enhancing their job opportunities.

Consultant Recommendations

1. A small amount of state funds should be earmarked for support of research in the geosciences. Critical areas needing state support include:

   - Fellowships for outstanding students. Developing one or two special fellowships or teaching assistantships at each department with the stipend equal to or slightly above the national average for the best geology departments would help in attracting some of the very top students each year. The impact of such outstanding individuals on their fellow graduate students would be dramatic and desirable in many ways.

   - Maintenance funds for repair or replacement of delicate instruments. There is a general lack of funds for the replacement of microscopes and other instructional equipment.

   - Addition of one full-time laboratory technician at each department. The need for technicians seems critical. In federally supported programs, technicians are not allowed to teach, hence special funding is needed for those people who are required for such technical services. Laboratory technicians can save money by maintaining and upgrading equipment and by providing some instructional support for students doing graduate-level research.

2. The University of Oregon should strengthen its "soft rock" capabilities. This should be done in concert with Oregon State University, which is much stronger in this field. The combined efforts of the University of Oregon and Oregon State University could develop a thrust with nationwide impact on research in petroleum resources.

   The desire at Oregon State University to develop a capability in engineering geology should be given very strong support. Oregon State University is the only institution in the state with adequate faculty resources for providing graduate-level courses in engineering, geology, and soils appropriate to engineering geology. A program in engineering geology at Oregon State University would help to meet the continuing need in the state for enlightened engineering geology practices in such areas as forest land management, urban development, and agriculture. The program would complement, rather than duplicate, the present work in engineering and environmental geology at Portland State University.
3. Because many earth scientists now engage in research that has political implications, faculty members are encouraged to participate to a greater extent in those public debates that require their expert knowledge. This should tend to encourage support for research of public interest from industry and the private sector.

4. A vigorous effort to publish the results of graduate studies in prestigious journals, as well as with the Oregon State Department of Geology and Mineral Industries, would yield handsome dividends in focusing attention on worthy research results. It would also be a real contribution to the state and to the general scientific and industrial communities.

5. A uniform policy should be established of returning a certain percentage of indirect-cost funds recovered by the universities from outside grants to the departments as discretionary funds to support and maintain research laboratory facilities. About 27% of these funds are returned at Oregon State University, and less than 4% at the University of Oregon.

The situation at the University of Oregon is critical in this regard. Faculty members who have brought in large sums of money to do research resent the fact that very little of this money comes back to their departments. Such monies are needed particularly to maintain laboratory facilities and equipment at a proper level.

6. There appears to be needless bureaucracy in purchasing special equipment because of state purchasing regulations. Faculty efforts to launch research projects that require sophisticated equipment and laboratory facilities are being thwarted rather than supported by complex rules and procedures.

Institutional Response

University of Oregon. The University is pleased with the consultant's appraisal of the University of Oregon graduate program in geology as an effective program with a commitment to good teaching joined to a strong program in basic research. The report is seen as an accurate and informed analysis of the principal strengths, weaknesses, and emphases of the geology program.

The following are some University reactions to the consultant recommendations:

- There is concurrence with the consultants that need for some state support for fellowships for outstanding students, and for maintenance, repair, and replacement of instruments is critical.

- The need to strengthen the University of Oregon's "soft rock" capabilities is recognized. The present situation will deteriorate further when a current faculty member (a stratigrapher) retires in December, 1980. Because of the current financial crisis, the department is not in a position at the present time to carry through on its commitment to seek a replacement.

- The University of Oregon geology department generates approximately $2 million per year in outside research funds, and there is little return of the indirect cost money generated to the department. Departments such as the department of geology do have real costs associated with grant-generating activity. The University seeks to improve this situation, and will review its policies regarding the allocation of indirect cost income during this coming year.
Oregon State University. The University feels that the consultants performed a thorough and creditable task and agrees with most if not all of their essential findings. The following were the major points made in the response:

- The geology department is one of the potentially strongest departments in the Oregon State University graduate school. It has not only forged ahead with established programs, but has also developed new programs which deserve the best support the institution can afford. A remarkably high level of cooperation has been achieved with other departments related to geology, such as oceanography, soil sciences, engineering, and other earth science areas. This cooperation has resulted in achieving quality graduate education in these areas.

- The University is cognizant of the need for increased support for maintenance of facilities, addition of a laboratory technician, and upgrading graduate student stipends to competitive levels, and will do what is possible within the severe budget limitations that prevail.

- Oregon State University is interested in strengthening the cooperative relationships among the geologists at the three state universities and is encouraging its geology department to participate in such efforts.

Portland State University. Portland State University finds the review of the State System graduate programs in the geosciences perceptive in recognizing the significant differences among the departments and the quality of graduate education provided by each. In particular, the report represents fairly the present state of the department of earth sciences at Portland State University.

Portland State University supports the consultant recommendation that a small percentage of the State System budget be earmarked for the support of research in the State System institutions. For the geosciences, this would mean some fellowships for outstanding students, maintenance funds for repair or replacement of delicate instruments, and addition of a technician at each of the geology departments.

Graduate Programs in Computer Science

Quality of the Programs

University of Oregon. The following are the consultant findings concerning the quality of the University of Oregon master's program in computer science:

- Faculty members in the department are of high caliber, with a strong commitment to quality research. Given the constraints of high teaching load, inadequate resources and staff support, and the lack of a Ph.D. program, the research productivity must be considered extremely good. Federal research grants and contracts totaled $120,000 in 1978-79.

- The quality of students is somewhat disappointing. This may be attributed to several factors: (1) There is a great demand for computer science graduates in industry, and consequently students tend to take positions in industry directly after graduation from college; (2) large classes, the lack of equipment for hands-on experience, and the unavailability of computer time for students have a negative impact on the image and attractiveness of the program; and (3) the lack of the Ph.D. program definitely is a negative factor in recruiting and retaining good students.

The University of Oregon master's program in computer science is high quality and graduates seem to be well equipped for jobs in the computer industry. The students interviewed by the consultants were generally happy about the courses being taught, and the teaching effectiveness
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of the faculty members. They were unhappy about the shortage of computer time, which severely restricts their ability to study effectively in system-oriented courses. Also, because of the heavy teaching loads, only "bread and butter" courses can be offered on a regular basis. However, the consultants were pleased to see that the department is significantly broadening the scope of the program, e.g., by adding engineering and data base courses.

Nationally, the program ranks among the top 40 among the graduate programs in computer science across the country. This ranking might be improved significantly if the program were to offer the Ph.D., as well as the master's degree.

There is a critical lack of laboratory equipment for the graduate computer science program. Although the department has obtained a number of microcomputers through a National Science Foundation grant, this equipment is used primarily for undergraduate computer science courses, which serve other departments as well as the computer science department. The evolution of computer science has reached a stage where any good computer science department offering graduate degrees can ill afford not to have at least one mid-size computer for hands-on experiments. The consultants also feel that the department does not have enough terminals for on-line computation. The lack of such equipment makes it difficult for faculty to do the type of experimental research that is needed in Oregon, particularly to serve the current and expected large influx of high technology industries into the state.

Space presently assigned the department is barely adequate. Any addition of equipment will require additional space.

Oregon State University. The following were the main points made by the consultants in their evaluation of the quality of the master's and doctoral programs in computer science at Oregon State University:

Although the faculty is able, there is a lack of evidence that high quality research activity with national impact is underway. Two problems undoubtedly account for this inactivity in large part: the excessive teaching burden, and the current period of uncertainty in the department while awaiting a new chairman to arrive and help set the research tone. Although federal support for research in the department is small ($22,000 in 1978-79), nonfederal grants and contracts are more substantial ($128,000 in 1978-79).

The factors tending to make it difficult to attract and retain high quality students in the graduate program in computer science at the University of Oregon are also operative in the program at Oregon State University, i.e., heavy teaching loads, shortage of space, large class sizes, inadequate computing facilities, heavy demand for computer personnel influencing students to go directly to industrial jobs rather than spending time getting higher degrees.

There is a critical lack of laboratory support, both in terms of equipment and space. Physical facilities are dismal; there is no identifiable department area, the office and laboratories are scattered randomly throughout Kidder Hall. There is no conference room or lounge where faculty and students can meet informally, making it difficult to gain a sense of common purpose and understanding of one another's research and teaching. The conversion of a classroom in Kidder Hall to terminals for access to central computing facilities is helpful generally, but does not directly aid the graduate program, since here the need is largely for hands-on equipment on which to experiment. The equipment which is available is overused, largely out-of-date, and inadequately housed.
Considering the lack of facilities and other difficulties indicated above, the program is doing well. The master's program is clearly a high quality program requiring a difficult written examination and, in most cases, a thesis or research project. The Ph.D. program is sound; however, because there are only a few graduates so far, it is difficult to assess the quality of the program in terms of the success of its graduates.

Need for the Programs

Computing and data processing have become significant factors in the economic and cultural life of this country. Their importance will continue to increase. In 1970, the cost of computing and data processing represented 1% of the gross national product. By 1976, this factor had grown to 4% and is projected to reach 13% by 1990. This rapid expansion of computer-related industries has caused a great demand for highly trained computer professionals. Currently, there are more than a dozen positions for every student graduating with the master's degree and more than 40 positions for every graduating Ph.D. student. The demand for computer professionals in Oregon in particular is increasing rapidly due to the current and expected large influx of high technology companies from "Silicon Valley" in California. The University of Oregon and Oregon State University are the only two academic programs at the advanced level to serve this burgeoning demand.\footnote{There are three bachelor's programs in computer science in the state. Portland State University received authorization for a BS degree program in 1979.}

Computing is becoming a way of life, and although varying in degree, every field in science and engineering requires knowledge in computer science. Computer science departments must be responsive to the need for courses to service the large number of non-computer science and engineering majors. Failure to provide such instructional services by computer science departments results in the proliferation of computer science courses offered by various departments across the university campus and is accompanied by higher costs and lower quality instruction.

Over the past five years, the University of Oregon has averaged 20 master's degrees in computer science per year, and Oregon State University has averaged 5 master's and one doctoral degree per year. Demand for the University of Oregon and Oregon State University graduates in computer science has greatly exceeded the supply. This trend is expected to continue for the next five or more years.

Duplication of Programs

There is no overlap of programs at the doctoral level, since only Oregon State University offers the Ph.D. program in computer science.

The two universities have not clearly staked out the specializations in computer science they are pursuing and wish to pursue. Both departments are trying rather desperately to be responsive to ever increasing demands in instruction and research. The heavy work loads and the uncertainty of being able to find and attract qualified personnel in particular specialties deemed essential and desirable make long-term program planning difficult.

The consultants made the point that even the authorization of a Ph.D. program in computer science at the University of Oregon would not be adequate to meet state needs for highly trained computer professionals.
Consultant Recommendations

1. The University of Oregon should be authorized to offer the Ph.D. degree in computer science. This would help to meet the extraordinary need for highly trained computer professionals in Oregon. Addition of the Ph.D. program would serve to strengthen the departmental research program, help to attract and retain top-flight faculty in a very competitive market, and help to attract high quality students.

2. Oregon State University desperately needs contiguous and greatly increased space for its laboratories, offices, classrooms, and conference rooms. Space at the University of Oregon is barely adequate and plans for increased space need to be made as the program grows and more equipment is acquired.

3. Both programs need a mid- or large mini-computer, more micro-computers for hands-on work, and support staff and maintenance costs, including a full-time technician.

4. There is great need for another senior faculty position at each university to maintain and enhance the budding research climates in the two departments.

5. To help alleviate heavy teaching loads (which are nearly twice those at competitive institutions) and the excessive pressures created by the undergraduate programs:
   - More graduate teaching fellows should be assigned to assist with instruction and advising in the department.
   - More faculty should be added.
   - Serious consideration should be given to restrict the number of majors, at least until the graduate programs are stabilized.
   - Junior faculty loads, particularly, need to be lightened to allow more time to get outside funding and to conduct research.

6. The load for graduate teaching fellows is overly heavy and should be modified. (This was noted particularly at Oregon State University where the load for a one-third time graduate fellow was approximately comparable to or perhaps exceeded a half-time load for teaching assistants at other universities.)

7. More travel money and funds for colloquium programs should be provided to sustain the research environment and help the faculty to stay abreast of their discipline.

8. The University of Oregon should consider instituting a thesis requirement for its master's degree in computer science; at the very least, students should be encouraged to take a thesis rather than a non-thesis option.

9. The two universities should continue their commendable mutually supportive cooperation. In particular, colloquium speakers should be shared, and joint research efforts should be expanded, if possible. It might be possible to collaborate on the choice of mini-computers acquired in the future so that the machines can be connected and there can be an active sharing in various research projects.
Institutional Response

University of Oregon. The University is pleased and is in general agreement with the consultants' report.

... The computer and information science department concurs with the critical needs identified and recommendations made by the consultants, and would place the recommendations in the following order of priority:

(1) Establishment of a Ph.D. program.
(2) Acquisition by the department of a mini-computer.
(3) Hiring one new senior professor/department head.
(4) Establishing at least three new GTF positions.
(5) Establishing a colloquium budget.

In response to the consultant recommendations, the University is proceeding as follows:

- A proposal for a Ph.D. program in computer and information sciences has been developed. The proposal is now under institutional and faculty review.
- The University places a high priority on increasing the size of the faculty in computer and information science. The possibilities of hiring a new department head, or adding junior faculty, or both, are under review. Faculty reduction in other areas will have to be made if the dramatic need for additional faculty in computer science is to be addressed.
- Further consideration will be given to the provision of fellowship funds, additional GTF positions, and support for lectures and colloquia under conditions of stable or expanding University resources.

Oregon State University. The report of the consultants was well-received. However, the review seemed to be overly critical at some points.

Computer science at Oregon State University has moved through a maturing process. In the early stages of its development, it was nurtured by the mathematics and electrical engineering departments; somewhat later (in 1972), a separate department of computer science was organized. The computer science department is headed towards a viable discipline of its own at the graduate level, even though the burden of heavy undergraduate enrollments (about 300) has apparently impeded a high level of research and publication activity. This situation is not unlikely in a developing department. In fact, the consultant report concerning the research and publication activity of the faculty is misleading. The computer science faculty in the past two years has actually produced 10 papers in refereed journals and 22 technical reports, rather than one paper in a refereed journal and a dozen technical reports, as indicated by the consultants. With a strong undergraduate program as a base, and more adequate support to meet the basic needs of the graduate program, it is expected that the graduate program will become stronger.

Facilities are admittedly poor for so large a department. It is hoped to avoid the use of off-campus housing for instruction. Arrangements are underway for making more space available in Kidder Hall by re-assigning some of the other activities there to other locations. It has been difficult to keep up with the "growing pains" of the department.
As to instrumentation, this rapidly changing field presents a problem of "keeping up with the Joneses!" The University feels that the additional support for computers is warranted, but with the fine cooperation of the computer center, the situation is not quite as dismal as described.

The computer science faculty is dedicated to developing a good program. Many of the difficulties encountered are typical of a developing department and can be overcome. With 43 graduate students enrolled in 1979-80 and enrollments increasing about 20% a year, prospects for the computer science department are promising.

The University fully realizes the importance of computer science and the special role it plays at an institution such as Oregon State University. Positive steps will be taken to address the personnel and space situations.

Graduate Programs in Mathematics and Statistics

The University of Oregon and Oregon State University offer master's and doctoral programs and Portland State University offers a master's program in mathematics. At the University of Oregon and Portland State University, statistics is offered as an area of concentration in the mathematics program. Oregon State University has separate mathematics and statistics departments, both granting MS/MA and Ph.D. degrees.

Quality of the Programs

University of Oregon. Summary of the consultant evaluation of the quality of the master's and doctoral programs in mathematics at the University of Oregon:

The department has real research strength; with a significant international reputation in some areas. In the 1969 American Council on Education ranking of the nation's doctoral programs, the University of Oregon ranked in the top quarter among doctoral programs in mathematics.

Several problems pose threats to the present high status of the program. The teaching load is high; the pay is relatively low, especially for full professors; the department is aging, with current expansion and replacement prospects unlikely to provide adequate "new blood". The department generally appears to have good esprit de corps and mathematical verve. There are several active research seminars. The rotating chairmanship seems to be working well.

The graduate students in mathematics are competent to good and occasionally there is an outstanding Ph.D. graduate who receives an appointment at one of the top mathematics research centers in the country. On the whole, the students are happy with the program.

A need for more graduate courses in certain areas was expressed by some of the graduate students, particularly first-year.

Presently, there are three Ph.D. students who have an area of concentration in statistics. These students, although quite satisfied with their programs, felt they would be better served if there were more advanced statistics courses and more students in the statistics program.
Departmental research and course offerings are particularly strong in algebra. Offerings in geometry-topology and analysis are also strong, but in some instances, students indicated they had difficulty in taking enough courses in their special area. There is also a good program in mathematics education; two faculty members in the department are actively involved in nurturing this area.

The statistics option is a small part of the University of Oregon graduate mathematics program. Four professors have Ph.D. degrees in statistics. The department teaches several service courses in statistics for graduate and undergraduate students from other departments on campus. However, several of the departments teach their own statistics courses. The courses taught by the different departments are often similar and perhaps in some instances almost identical. This proliferation of statistics courses results in small classes, at times, and may provide opportunities for students to receive credit for each of several almost identical courses.

The consultants strongly support the department's proposal to move the mathematics library collection to the building where the department is housed. (This move has been effected since the consultants made their report.) There is a serious shortage of funds for the purchase of books. Computer facilities appear fully adequate.

Funds for colloquium speakers are very limited. Costs for bringing in speakers are higher for the University than for comparable universities more centrally located. But, bringing in speakers and resource people is a primary means of keeping abreast of the latest developments in one's field.

Oregon State University. Summary of consultant comments concerning the quality of the master's and doctoral programs in mathematics at Oregon State University:

Overall the faculty is creditable but not distinguished; three or four members of the faculty have considerable strength in research with a good publications record. The 1969 American Council of Education ranking of doctoral programs in the nation placed Oregon State University in the top half among doctoral programs in mathematics. Grant support for research is creditable, comparable to that at the University of Oregon (about $100,000 in 1978-79).

The consultants were concerned about the age and tenure distributions of the professorial faculty. The mathematics faculty is close to 80% tenured with only three people within 10 or 12 years of retirement. The consultants also felt that reported recruitment and promotion policies impose serious limitations on faculty improvement, i.e., no credit toward promotion for prior service in rank, and an almost fixed (and long) time period for service before promotion.

The student-faculty ratio in mathematics is significantly higher at Oregon State University than at the other Oregon universities. The course load for research faculty is higher than it is in leading research departments on the quarter system elsewhere.

Interviews with students revealed that students generally were pleased with their programs. In order to staff teaching assistantships, the department has been recruiting some graduate students with deficiencies in undergraduate mathematics. Such recruiting is consistent with the realities of the overall national graduate student supply in mathematics, but does impose extra obligations on the department to insure the quality of the program and its graduates.

The programs are strong in analysis and applied areas of mathematics. However, the faculty lacks the breadth in algebra and to some extent geometry and topology customarily found in graduate programs in
mathematics. The lack of research interests of the faculty in areas other than analysis and applied areas makes it difficult for some students to get the kind of training they seek or for which they are best suited.

The new career programs option in the master's program designed for students interested in governmental and industrial careers in mathematics is appropriate and well-conceived.

The mathematics department accepts its obligations in teacher education as evidenced by the assignment of three and one-half positions in mathematics education. The attitude of research faculty toward teacher education is generally supportive and helpful.

The library and computing services appeared adequate to good. Some improvement is needed in funds for bringing in outside speakers and sending faculty to conferences and meetings.

There is a very serious deficiency in office space for faculty and graduate students.

The following is a summary of consultant comments concerning the quality of the master's and doctoral programs in statistics at Oregon State University:

The faculty is strong; some members are nationally and internationally known. The faculty contributes heavily to the use of statistics in other departments on the campus, and in this sense may be doing the best job of any statistics department in the country. For the size of the faculty (18), faculty members have been successful in obtaining sizeable amounts for research ($154,640 for 1978-79). The department maintains excellent contacts with state and federal agencies, and with a number of industrial firms having statistical problems.

Faculty workloads are heavy and the department is grossly understaffed.

Students are highly motivated and well directed. They are satisfied with their programs and are especially complimentary of the availability of the faculty. Each graduate student is required to do some teaching and some consulting. Students acknowledged that these activities contributed significantly to their learning, but some were critical that they received no pay for the teaching.

The program is a good blend of theory and applications, research, teaching, consulting, and service. The consultants lauded the department for "serving in the finest tradition of a statistics department in a land-grant university."

The various options offered reflect the training and interest of the faculty. A few areas seem to have an insufficient number of courses, i.e., time series, multivariate analysis, and nonparametrics.

The library and computing facilities are adequate. Office space is inadequate. There is need for more graduate teaching assistants and secretarial staff.

Portland State University. Summary of consultant evaluation of the quality of the master’s program in mathematics at Portland State University:

The faculty is mostly competent and well-qualified to offer a master's program in mathematics. There is a modest amount of faculty research but only one person has federally funded research.

The department is noticeably understaffed, especially in view of the ever increasing enrollments in mathematics courses. The consultants questioned some of the promotion and tenure procedures, i.e., no pattern of outside peer review of research; elective promotion and
tenure committees with all ranks represented so that untenured assistant professors could be involved in a decision on tenure for a colleague or on promotion of a senior faculty member.

The students are generally quite happy with the program. Many have returned to school after a period of work and have specific goals. Some continue studies for a Ph.D. at other institutions, but most go back to better or different positions in teaching and industry.

Since many of the students came back to college after an absence, they have difficulties with the transition from undergraduate to graduate work. A better advising system would help to alleviate this problem. Students expressed considerable dissatisfaction with the quality of instruction in the graduate courses in mathematics during the interviews conducted by the consultants.

The program is well conceived and creditably executed. There is a shortage of courses in computer science. The number of graduate courses offered in mathematics is substantial, but many are offered only in alternative years, creating a problem for graduate students seeking a balanced program. The lack of distributional requirements makes it possible for students to design their programs to serve their own specific needs, but may result in a lack of breadth in the student's program.

A strong feature of the MA/MS program is that each student is required to read a paper in the mathematics literature and give an oral and written report on the paper. This procedure provides a valuable transition between doing mathematics in courses and doing it in the outside world.

The office and classroom facilities and the library, on the whole, are adequate.

Need for the Programs

The three universities have conferred an average of 47 master's and 13 Ph.D. degrees in mathematics and statistics per year over the past five years: 15 master's and 5 doctoral degrees in mathematics at the University of Oregon; 6 master's and 4 doctoral degrees in mathematics, and 11 master's and 4 doctoral degrees in statistics at Oregon State University; and 15 master's degrees in mathematics at Portland State University.

Placement for the master's and Ph.D. graduates in mathematics and statistics at the three universities over the past three years has been good. Practically all of the Ph.D. graduates in mathematics (23 of 25, or 92%) were placed in academic positions in colleges and universities; one was employed in a research position in industry; and for one placement was unknown. Of the 7 Ph.D.'s in statistics, 6 (55%) were employed in research positions and one (9%) was employed in a non-research position in business, government, and industry.

Of 112 master's graduates in mathematics and statistics for the three-year period, 34 (30%) were continuing graduate studies; 21 (19%) were employed in colleges and universities and the public schools; 40 (36%) were employed in research and non-research positions in business, government, and industry, or self-employed; for 17 (15%) the employment status is unknown.

There has been a reduction nationally in the number of Ph.D. graduates in pure mathematics from 800 to 500 over the past five years. Consequently, what was a slight oversupply in the number of beginning Ph.D. graduates for the academic market has become an undersupply. There has been a strong tendency for the graduate in pure and applied mathematics to go into business and industry or to be diverted into such fields as computer science or operational research.
At all three of the universities, there is close cooperation between the mathematics department and other science departments. Graduate faculty members in mathematics serve other departments of the University from time to time with specialized knowledge and in some instances serve as consultants to government, business, and industry.

**Duplication of Programs**

Although the graduate programs in mathematics at the University of Oregon and Oregon State University are similar in many respects, the emphases are different. The University of Oregon program stresses theoretical and pure mathematics; Oregon State University emphasizes application of mathematical theory. Research and course offerings at the University of Oregon are particularly strong in algebra with considerable strength in geometry-topology and analysis; Oregon State University's strengths are in analysis and applied mathematics.

The master's program in mathematics at Portland State University is broadly based to meet the needs of students, both traditional and non-traditional, in the Portland metropolitan area. The program, in most part, serves a different student clientele than that served by the other two universities.

Whereas the graduate programs in mathematics at the University of Oregon and Portland State University have a statistics component, only Oregon State University, with separate mathematics and statistics departments, offers master's and doctoral degrees in statistics per se.

**Consultant Recommendations**

The following are the consultant recommendations with respect to the graduate programs in mathematics:

1. To strengthen the capability of the three mathematics departments to attract and keep faculty talented in research, the consultants recommend the following:

   - Look for advanced assistant professors and beginning associate professors when filling positions. The very best Ph.D. graduates in mathematics tend to take temporary research and postdoctoral fellowship positions at one of the major research centers in mathematics. Also, there can be a better assessment of talent after individuals have had some years of experience.
   - Particularly at the University of Oregon and Oregon State University, consider a senior appointment if a really outstanding person seems available.
   - Adopt policies that will permit selective teaching load reductions and prompt promotion and tenure for faculty who have demonstrated their ability and potential in research.
   - Raise faculty salaries, especially at the recruitment level. Salaries presently are not sufficiently competitive to attract top-flight personnel.
   - Provide incentives for early retirement to assure a good age and time-since-doctorate distribution among the faculty. The problem of age distribution of the faculty is most acute in the mathematics department at the University of Oregon, where the number of young faculty and faculty near retirement is small.

2. All three departments need more faculty positions to bring their present high student-faculty ratios to a somewhat lower level. Some additional positions should enable the departments to get more research vitality and better age and subject matter balance. The University of Oregon needs to build additional faculty strength in analysis; Oregon State University needs more breadth in algebra and geometry-topology; and Portland State University needs to strengthen its offerings in computer science.
3. The consultants pointed to some problems with respect to current tenure and promotion practices at Oregon State University and Portland State University.

At Oregon State University, it appeared that policies were somewhat inflexible, i.e., customarily no credit toward promotion for prior service in rank and inconsistent emphasis on research performance in decisions on tenure. The consultants recommended that promotion and tenure policies be more flexible to attract and keep top-flight people. In making promotion and tenure decisions, evaluations of the quality of the scholarship and research of the candidates by experts outside the University should be included in the process.

At Portland State University, the consultants felt that junior faculty should not be involved in tenure decisions or in determining promotions for senior faculty; consideration for promotion and tenure should include evaluation by individuals outside as well as inside the University of the research capabilities of the candidates. Also, the qualifications of individuals up for tenure should be considered in the light of the qualifications of other persons who might be available for the position held by the candidate.

4. Making some beginning graduate fellowships (non-teaching) available with a stipend sufficient to attract top-flight students, and somewhat increasing the stipends for teaching and graduate assistants, particularly at the beginning level, combined with vigorous recruiting of students, would result in attracting significantly better graduate students to the mathematics programs in the state.

5. There should be expanded support for colloquium speakers, professional travel, and purchase of books.

6. The mathematics department at Oregon State University is in desperate need of more adequate office space and instructional facilities.

7. Although there are some staffing problems in the newly-instituted master's career programs option at Oregon State University, the program should be continued. When fully implemented this program should help the department play a useful service role to the University and the state.

The following were the consultant recommendations with respect to the master's and doctoral programs in statistics at Oregon State University:

Although, presently, the statistics department at Oregon State University is strong and its programs are of high quality, improvements are needed in the working conditions.

- The department is grossly understaffed, and additional faculty are needed.
- Faculty salaries are dangerously low and need to be improved.
- Additional graduate teaching assistantships, secretarial staff, and office space should be provided.

The consultants indicated that if the weaknesses listed above are "not attended to deliberately and with dispatch, this department is in danger of following in the footsteps of several other departments of statistics that were first-rate and in a few short years degenerated into third-rate departments."

The following were the consultant recommendations with respect to the graduate program in statistics in the department of mathematics in the University of Oregon:
Because of the current proliferation of statistics courses throughout various departments, a university-wide committee on statistics should be established to organize and coordinate all statistics courses within the University. All statistics courses should be under the jurisdiction of this committee. The chairman of the committee should report directly to the Provost. However, budgetary responsibilities and degree-granting privileges should reside as at present with the departments, schools, and colleges concerned. Such a committee could organize a curriculum that would better meet the needs of all students than is possible with the current diversity of control and lack of coordination and should result in greater economy and improved instruction in statistical education.

Three of the four members of the University of Oregon faculty in statistics are approaching retirement. If the graduate program in statistics is to continue, a dramatic effort should be made now to do something about statistics programs on the entire campus—young research faculty should be hired, salaries should be improved, and vigorous recruiting efforts should be made to increase the number of students in the program.

Institutional Response

University of Oregon. The University is pleased that the consultants found the University of Oregon mathematics department to be "of real research merit" and deserving of its status in the top quarter of the nation's doctoral programs in mathematics (1969 American Council of Education doctoral program assessment).

The following are comments made by the mathematics department concerning the consultant analysis and recommendations:

- University policies which would provide incentives for early retirement are strongly endorsed by the department.

- Teaching loads are high and due to become higher as new mathematics requirements for the bachelor of science degree come into effect.

- Average salaries for the mathematics faculty are approximately at the 25th percentile for peer group institutions, according to the American Mathematical Society.

- National competition for promising graduate students has become much keener, and support for three or four fellowships (non-teaching) for recruitment of promising first-year students would be a critical inducement.

- The call by the consultants for increased support for visiting speakers needs emphasis. Mathematical research and graduate training do not call for expensive laboratory equipment but are vitally dependent on the exchange of ideas in rapidly developing areas of research.

- The department concurs with the consultant recommendations that the University would be better served if there were a central group administering statistics on the campus, as was the recommendation of a 1979 committee on statistics established by the Provost's Office.

The University will give serious consideration to the matter of centralizing the administration of statistics. However, there are serious differences regarding the issues involved, and further discussion is needed to resolve these differences.

With the projected budget reductions, the provision of additional faculty, funds for graduate fellowships, and support for lecturers and colloquia cannot be achieved at the present time.
Oregon State University (Mathematics). The University concurs with the consultant recommendations for the graduate programs in mathematics and will implement the recommendations to the extent resources permit. The following are some of the comments with respect to the consultant evaluation:

The University recognizes the need to correct serious deficiencies in staffing, office space, and to a somewhat lesser extent, salaries, for the improvement of the research and graduate program in mathematics. These needs are equally serious, if not more so, for the undergraduate teaching/service obligation to the rest of the University. The undergraduate program, in terms of the student credit hours generated, forms the fiscal as well as the academic backbone of the University. During the fall term, 1980, the mathematics department is teaching 6,371 students in 128 classes for an average of 50 students per class. The first term calculus course (Mth 200) alone, is generating more than 4,000 student credit hours.

The relative lack of seminars and departmental verve for research is being dealt with at the departmental level, but the department's high teaching and service load to the University makes it difficult.

The listing of student-faculty ratios at Oregon State University below indicates that these ratios are considerably higher in the mathematics department than in the college of science or the University, as a whole:

<table>
<thead>
<tr>
<th></th>
<th>1969-70</th>
<th>1978-79</th>
</tr>
</thead>
<tbody>
<tr>
<td>University, as a whole</td>
<td>17.52</td>
<td>17.51</td>
</tr>
<tr>
<td>College of Science</td>
<td>16.56</td>
<td>18.38</td>
</tr>
<tr>
<td>Department of Mathematics</td>
<td>23.35</td>
<td>30.44</td>
</tr>
</tbody>
</table>

To reduce the teaching load for research faculty, an initial trade-off could be arranged by lowering teaching loads for the very active researchers and increasing teaching loads for those relatively inactive in research. However, this is a very sensitive issue in the department.

The consultants seem particularly sensitive to the "lack of breadth" of the faculty outside of analysis and/or applied areas. There is both a national and local sympathy for attempting to achieve excellence in a few areas rather than attempting to achieve excellence in all areas. In terms of Oregon State University's mission, it is natural and desirable to concentrate on analysis/applied mathematics.

The consultant comments concerning the inclusion of research performance in tenure and promotion decisions as having occurred "only recently" are somewhat misleading. The department has consistently used an evaluation of research performance in making tenure and promotion decisions since 1970.

Also, Oregon State University administration's position on prior service and early promotion is more flexible than the consultants reported. However, it is recognized that more flexibility is needed in well justified cases.

With respect to summer support for graduate students, it has been departmental practice that only regular faculty teach in summer school; grant support has not been available for students. There have been essentially no graduate-level courses offered in summer.

Oregon State University (Statistics). There is full agreement with the consultant statement that the department of statistics at Oregon State University is at a crossroads and its future uncertain, and that with adequate support it can continue as a strong department, but without additional resources it can lose its standing.
More specifically:

The availability of adequate instructional FTE in the department has become an increasing problem over the past few years. On the basis of enrollment figures for the 1979-80 academic year, the department of statistics had only 72% of the faculty FTE generated under the formula of 25:1, 15:1, and 7:1 for lower-division, upper-division, and graduate student credit hours.

The problem of inadequate faculty FTE is compounded by the relatively large number of committees on which faculty in statistics necessarily serve and the many hours which must be spent in consulting with graduate students and faculty in other departments.

The dean’s office has furnished some relief with temporary funds each year to pay for part-time help and teaching assistants, but this is far short of what is needed and cannot be counted on to plan schedules and to recruit well qualified staff.

The salary situation in the department is fully as serious as outlined in the report. The quality of the statistics faculty at Oregon State University is well above the average for the 83 statistics departments and groups included in the consultant survey, while salaries average less than 90% of the median salaries, adjusted for rank and years in rank. A number of the faculty have strong national and international reputations and have opportunities to go elsewhere. Oregon State University has been successful in keeping most of them so far but there is always the danger of losing key members of the department. The salaries are certainly not the factor in keeping them at Oregon State University. If the department were to lose one or more of the key members, it would have great difficulty in replacing them with staff of comparable quality without paying a considerably higher salary. If this were done, the relative salaries would be greatly out of balance and contribute further to problems of inequity and dissatisfaction. It is felt that the faculty recognizes the seriousness of Oregon’s financial situation at this time, and would not expect immediate action on salaries. It is imperative, however, that the Oregon State University administration recognize the importance of the situation and move towards restoring salaries comparable to the University’s competitors.

In comparison to the problems of faculty FTE and salaries, other problems are of lesser magnitude. While the department has some space needs, it can exist with them until the computer science department can be moved to improved quarters and can relinquish some of its existing space.

The services and supplies budget and secretarial wages are well below department needs. The secretarial staff supported by the college of science is only one secretary and a half-time clerical assistant. This does not even come close to the secretarial services required.

The consultant raised the issue with regard to the use of graduate students as teaching assistants without paid compensation. It is true that this has been done when funds were unavailable to pay the students for their time. The department does have a teaching requirement for all graduate students. This requirement is easily met by teaching assistants in the performance of their duties. However, for research assistants and students not on financial aid, the teaching assignment may or may not be compensated for, depending upon available resources. With additional instructional FTE it would be possible to reimburse these students for their time.

Another point raised by the consultant was the lack of course work on particular topics. These deficiencies are recognized and have been discussed among the faculty on a number of occasions. Some information is included within other courses, but some have not been given because of lack of FTE. Advanced courses are presently being revised to accommodate some of these topics.
As a result of the reviews of computer science, mathematics, and statistics, the dean of the college of science and the vice president for research and graduate studies have conferred with the department chairmen to analyze the problems brought to light by the consultants. Attempts will be made to improve conditions for all of the mathematical sciences at Oregon State University. The administration of Oregon State University fully realizes the importance of the mathematical sciences to higher education. The special role of this field of endeavor at an institution such as Oregon State University is also fully recognized. Positive steps will be taken to address the personnel and space situations.

Portland State University. The consultant reports on mathematics and statistics have been reviewed, and on the whole the University is pleased with the generally favorable assessment of the Portland State University programs.

The institution has been aware of most of the problems identified by the consultants, although their comments provide additional perspective and lend some emphasis to the need to seek solutions. The institution is moving toward correction within the constraints imposed by the collective bargaining agreement with the faculty, particularly with respect to the situations concerning tenure and promotion policies, and by the new budgetary limitations, which the consultants could not have been expected to predict at the time they made their recommendations.

(Considered by Committee on Instruction, Research, and Public Service Programs, December 12, 1980; present--Carpenter, Anderson, Harms, and Warner-Yasuda.)

Presented herewith for the Board's information and discussion is a progress report on the efforts of the institutions of the Oregon State System of Higher Education to be responsive to the higher educational needs of Oregon's ethnic citizens, and, not incidentally, to provide educational opportunities not easily available in a racially exclusive student body for members of the majority population.

Staff Recommendation to the Committee

The report suggests a number of areas in which further information and evaluation of institutional efforts to carry out the Board's long standing commitment to minority education would be helpful in suggesting ways in which the effectiveness of these efforts might be improved. Some of these studies will be carried out in the course of response to the modification made in 1979 of the Board's 3% (now 5%) admissions policies. Other studies will come about as Oregon State University and the University of Oregon evaluate the effect of new admissions requirements in writing. Data already available suggest additional investigations.

It would be helpful to the Board's staff and the institutions, in directing attention to the continuing needs in this area, if the Board would reaffirm its commitment to serving members of Oregon's ethnic communities who can benefit from access to the educational programs offered by the institutions of the State System of Higher Education, and it was so recommended.

Discussion and Recommendation by the Committee

Mrs. Kahananui stated that the material presented was a preliminary report. In developing the report, areas were identified in which there was a need for further information. She indicated a number of people had assisted in the research and Mr. Lewis Merrick, Associate Director of High School Relations--Minority Students, compiled the material and was available to present a brief statement and respond to questions.

Mr. Merrick stated that the report provided data basically on the four major ethnic groups in Oregon. It indicates where they are located, what some of the successes have been, and how they compare, numerically at least, with
each other and with the white population in general. He said historical assumptions about ethnic students had been explored with results that suggested the need for greater activity in the area of ethnic student recruitment and retention. These topics will be studied and information presented in a future report.

Data on the similarity of decision making by ethnic students and white students in choosing colleges and academic majors were compared and juxtaposed with the dissimilarities of collegiate expectations and experiences. The institutional response to ethnic students, though benevolent, has been inadequate for the need to establish a stable, productive environment for many academic students. Increased enrollment activity seems to be required if the State System is to meet other than marginal needs of both ethnic and white students to be exposed to a sense of value inherent in contact with multi-ethnic life styles and professional strivings.

Mr. Merrick noted that the report covered approximately 15 years of activity and that the first five or ten years represented a learning process. Programs and personnel have changed and matured in the last five years. Further investigation is important with respect to efforts to attract and retain students. A sharp decline in ethnic participation at the graduate and professional school level has been observed and causes some concern.

Ms. Warner-Yasuda said she understood the report had been sent to various special service programs throughout the state and asked what response had been received. Mr. Merrick said a number of these individuals had commented that they had found the report very useful and conveyed to him some of their interests for further information. These concerns included minority recruitment and graduate student attendance. They also found the data useful as an indicator of where ethnic minority students are at the present time.

Mrs. Green said she was bothered by the fact that the statistics were on the 1970-71 basis. Mr. Merrick said much of the published material was developed in the early 1970's but little analysis had been done in terms of special programs since that time at the national level. In-state evaluations have been prepared. Mrs. Green suggested that the greatest progress has occurred in the last ten years and the 1970-71 data would not present a true picture. Mr. Merrick said 1972 would be the peak year in terms of numerical attendance, with substantial decline since that time.

Mrs. Green said she also was troubled by the use of the word "ethnic" and asked that it be defined. Mr. Merrick said the ethnic student, as defined in the study, refers to the Native American, Black, Chicano, and Asian students, and the non-ethnic students collectively generally refer to the white population or general population.

Mrs. Green suggested that "minority" or "black" might be preferable designations because everybody is an ethnic person. Mr. Merrick said the word "minority" had been avoided because most ethnic groups tend to be insulted by that term when they attach a global analysis to their numbers.

Mr. Anderson said retention had been mentioned as one of the major problems and asked where the greatest inadequacy of institutional services was perceived to be for ethnic students. He asked whether it was not true that ethnic students had the same services that other students had.

Ethnic students suggest that they are less comfortable in many of those service areas provided for the general population, Mr. Merrick said. In the absence of communities which are culturally-based, or involving them in the dynamic life of the culture from which they come, ethnic students tend to have a higher expectation than other students that their cultural nurturing will occur on campus.
Mr. Anderson inquired whether that meant employ more ethnic persons in various categories. Mr. Merrick responded that efforts should be made to avoid "special people" but the presence of an ethnic minority person in the professions and other positions does provide a nurturing of the environment for the ethnic student.

Mr. Anderson commented that the need to recruit more minority people has been recognized but the problem is supply and demand in many instances. This suggests the need for recruitment of students to increase the supply. He asked what could be done to encourage students to enter the institutions.

Mr. Merrick said the high school visitation program is one of the major efforts in Oregon to encourage the general student population to enter institutions of higher education. Ethnic students seen through this program are limited so there must be an additional rather unique effort of some sort to contact ethnic minority students. Some efforts are being made but they are limited by the funds available. It would be very helpful if recruitment priorities were centered in the admissions offices for ethnic populations. He said there were two issues--to what extent is there involvement in recruiting within the state and, secondly, in view of the very limited number, to what extent should that number be augmented by going out of state.

Mrs. Carpenter asked what procedures would result in further information about retention of students. Mr. Merrick explained that it will be necessary to explore a number of factors relating to recruitment and the elements contributing to matriculation and retention. Mrs. Carpenter said conversations with individual students would be important because retention of any student is a very individual matter affected by many factors. She suggested it would be important to see whether there was a common denominator for ethnic minority students that was different for white students. Mr. Merrick noted that there is a process for evaluating the effect of student services available but that phase of the study has not been done as yet. Careful analysis will be necessary as the results are obtained.

Representatives from each of the special programs spoke briefly about the programs at their institutions. It was stated that at the beginning, most programs had been searching for ways to assist ethnic minority students and mistakes had been made. However, knowledge had been gained from those mistakes and the programs have improved. The representatives expressed pride and optimism about the programs. They also cautioned that funding is important and it is difficult and expensive to increase enrollments. The importance of having an ethnic person in these offices to assist ethnic minority students was emphasized because it is reassuring to individuals from these groups who often approach a predominantly white institution with some timidity and concern. Such staff members also provide a role model as a person who had dedicated his or her life to education and the pursuit of a higher degree. This demonstrates to a new student that minority students can be successful.

Ms. Warner-Yasuda congratulated the staff on the very informative report and said they should be encouraged to provide the Board with further information regarding this most critical area.

The Committee recommended, on motion by Ms. Warner-Yasuda, that the Board approve the staff recommendation as presented.

Board Discussion and Action

In concluding the presentation of the Committee report, Ms. Warner-Yasuda indicated that she had received a number of telephone calls and letters from directors of programs of ethnic and special students. Copies of the letters were distributed for the information of the Board. She commented that an interinstitutional committee appointed by the Chancellor and endorsed by the Board would be a viable route for the Board to consider as an act of reaffirming its commitment to ethnic and special students.

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The enrollment of minority groups in the State System reflects a higher percentage of each group, except for Hispanic, than might be expected from the population. Mrs. Green stated the institutions should be commended for their efforts to recruit these students.

Mr. Batiste asked whether the slight decrease in the number of Blacks graduating from State System institutions in 1979 represented a trend.

Mr. Lewis Merrick, Coordinator of Special Programs for the Office of Academic Affairs, said the decrease is thought to be tied to a decrease in the population but further investigation is required. There are concerns also about retention. Further research is planned in this area as well. With respect to making greater contact with the high schools, Mr. Merrick said it was important to encourage the counselors to allow State System personnel to have access to students so that they can assist the students and their parents in determining whether a four-year institution is a reasonable choice for the individual student. In many instances, the counselors have appeared to lack confidence in the ability of ethnic students to attend four-year institutions.

At the request of Ms. Warner-Yasuda, Mr. Merrick summarized the December 27, 1980, meeting with the directors and heads of the special services. The group was concerned that the Board might interpret the high percentages as being a satisfactory effort. Recruitment and retention will require new efforts to maintain the present level. There was support for a reorganized, reactivated interinstitutional committee that would insure representation of the interests of a large body of people.

In discussing the effectiveness of the State System in meeting its commitment and reaching solutions to problems of ethnic and special students, Mr. Merrick said the leadership of the programs had not been sufficiently articulate in terms of the needs for individual programs on the various campuses. The program people must find ways to encourage these students to participate in the campus politics and dynamics.

Mr. Anderson asked Mr. Merrick to suggest ways in which the Board could provide leadership. Mr. Merrick said the Board could encourage the institutions to identify and achieve a critical mass which would improve the likelihood of success for that particular ethnic group. A new recruitment method or contacts with the State Board of Education to improve access to students in the high schools would be helpful. The Board approved the Committee recommendation as presented, with the following voting in favor: Directors Anderson, Batiste, Elorriaga, Green, Ingalls, Lomnicki, Warner-Yasuda, Wyss, and Harms. Those voting no: None. Directors Carpenter and Petersen were absent from the meeting at this time.

The Board approved a motion by Mrs. Green that the Board go on record as commending the institutions for the outstanding job they have been doing in recruitment and retention of members of the minority groups. The following voted in favor: Directors Anderson, Batiste, Elorriaga, Green, Ingalls, Lomnicki, Warner-Yasuda, Wyss, and Harms. Those voting no: None. Directors Carpenter and Petersen were absent from the meeting at this time.

The Board approved a motion by Mr. Harms that the Board recognized the importance of cooperative efforts among the institutions, especially in regard to programs for ethnic minorities, and that the Board encouraged the efforts that have been begun, and directed its staff to assist in them. The following voted in favor: Directors Anderson, Batiste, Elorriaga, Green, Ingalls, Lomnicki, Warner-Yasuda, Wyss, and Harms. Those voting no: None. Directors Carpenter and Petersen were absent from the meeting at this time.

In presenting the motion, Mr. Harms said he hoped that it would have the effect of encouraging the reformation of the interinstitutional committee.

Ms. Warner-Yasuda emphasized the need for a strong tie between the interinstitutional committee and the Board in order for the committee to be effective.
Mrs. Green asked whether Upward Bound, Talent Search, and Special Services were used exclusively for minorities. It was indicated that the percentage of minorities in these programs varied from 40% to 50%. However, since 89% of the disadvantaged are white, there are numerically far more whites who are disadvantaged. Mrs. Green said the programs should be directed at all disadvantaged, not just the ones of any particular ethnic group. It was stated that the Talent Search program was restricted to a very small area in Portland, largely within the minority population. It is not available for the entire state.

Staff Report to the Committee

Presented below is a summary of the staff report to the Committee. The complete report, entitled Federal And State Programs For Ethnic and Special Students In The Oregon State System of Higher Education, dated December 12, 1980, is on file in the Board's Office.

Over the last fourteen years, the State of Oregon has sought to respond to problems of ethnic and disadvantaged students entering or seeking to enter programs of higher education. Utilizing both federal and state resources, colleges and universities have developed programs intended to provide positive options for this population. The major catalyst for these programs has been the federally sponsored programs collectively identified as student special services.

Federally Sponsored Programs

There are three principal federally sponsored programs. All are represented on Oregon campuses, as described below. It will be noted that the first two programs were designed to facilitate access to some type of post-secondary educational experience and the third program was developed to promote on-campus retention.

1. **Upward Bound** started as part of the war on poverty program in 1965 and was originally funded through the Office of Economic Opportunity. Presently funded through the U. S. Department of Education, it serves as a radically different type of experience for high school youth. Upward Bound provides educational and psychological support to students assessed as having potential to perform in some area of post-secondary education. Undergirded with tutors and intensified math and reading classes, the student is given the opportunity to correct potential or actual learning problems which might inhibit his/her academic progress. Cultural and recreational events are offered to students as an opportunity for reassessment of social values and counselors assist in planning for the future with students. Upward Bound programs are always campus based and rely on intricate and broad-based campus participation and support to provide a comprehensive and effective program. The core of this program lies in the six-to eight-week summer program.

Currently three of the six Upward Bound programs in Oregon are in State System schools.

<table>
<thead>
<tr>
<th>University</th>
<th>Federal Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Oregon, serving 56 students</td>
<td>$178,641</td>
</tr>
<tr>
<td>Oregon State University, serving 55 students</td>
<td>127,049</td>
</tr>
<tr>
<td>Portland State University, serving 50 students</td>
<td>111,483</td>
</tr>
</tbody>
</table>

The other three programs are located on the campuses of Mt. Hood Community College, Pacific University, and Linfield College.
2. **Talent Search.** In 1966, federal legislation was passed which provided funds to support a nationwide search for potential undeveloped or undiscovered talent. Talent Search operates at local and statewide levels to provide information concerning colleges and universities to students not traditionally encouraged to attend higher educational institutions.

There are currently only two Talent Search programs in Oregon. One, Boost Educational Talent Search, has recently (1979) been transferred from the Board's Office of Academic Affairs to Portland State University. During the 1979-80 fiscal year, this program served 1,100 Oregon students with $108,797 federal dollars.

The other talent search program is located at Central Oregon Community College.

3. **Special Services.** The influx of new populations of ethnic minority/disadvantaged students on traditional college campuses was not without serious problems of environmental and academic adjustment. The Special Services program was created in 1970 to provide centers where students identified as being disadvantaged in being able to succeed in college because of ethnic or impoverished background could receive help in environmental adjustment and academic remediation, where necessary. Special services personnel were seen as advocates for special students, and, in many instances, as change agents charged with carrying out the mandate of the Federal legislation in this area which called for "institutional change." Special services then worked to solve both immediate and long-range problems of transition of these new populations into the mainstream of the academic-socio-cultural life style of a campus community.

There are five State System schools which have special service programs. Each of these programs receive federal funds from the U. S. Department of Education and Veterans Administration programs.

<table>
<thead>
<tr>
<th>University</th>
<th>Students Served</th>
<th>Federal Funds, Fiscal Year 1980-81</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Oregon</td>
<td>400</td>
<td>$140,691</td>
</tr>
<tr>
<td>Oregon State University</td>
<td>(new)</td>
<td>87,329</td>
</tr>
<tr>
<td>Oregon College of Education</td>
<td>(new)</td>
<td>147,716</td>
</tr>
<tr>
<td>Eastern Oregon State College</td>
<td>335</td>
<td>90,000</td>
</tr>
<tr>
<td>Portland State University</td>
<td>260</td>
<td>114,024</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>995</strong></td>
<td><strong>$579,760</strong></td>
</tr>
</tbody>
</table>

**Non-Federal Programs**

Simultaneous with development of the federally-sponsored programs described above, many colleges and universities started programs on their own with--or often without--federal funds. These programs, which collectively might be called educational opportunity programs (EOP), often had popular titles or acronyms. The programs normally have three components:

- Recruitment/admissions.
- Counseling.
- Tutorial/academic.

Each of the three universities of the State System have an EOP operating on campus. It is important to note that, generally, an institution's special services program and the educational opportunities program involve the same staff and students. Program components are funded by a combination of federal and state funds in accordance with requirements of the funding agency, e.g., federal guidelines prohibit the use of government funds for the recruitment of students.
Special Program Assumptions

The substantial increase of ethnic minority and/or "disadvantaged" students in higher education between the years of 1966-1973 was largely the result of the work of the various programs described above.

One of the most significant assumptions made during this era of expansion of educational opportunities was that the energy spent implementing and maintaining these programs would eventually result in:

- A substantive change in the ethnic and low income communities' view of post-secondary educational options.
- A steady flow of low-income and ethnic people from these communities into the college environment.
- A substantive change in the educational institutions which accepted these students. This change (it was assumed) would positively and permanently affect the academic, social, and political life of administrators and faculty as well as the student population.

Educators working in this area now realize that providing educational options for the stated population is a task more difficult than anticipated, one that will require additional years of emphasis and more skilled personnel involvement than was anticipated at the program's inception more than a decade ago. The need for educational values and opportunities still exists and yet institutions are not faced with hordes of eager ethnic faces seeking entrance. Ethnic students who are in attendance suggest that many institutional policies, personnel, and nonethnic students are as indifferent to ethnic concerns and presence now as they might have been before their arrival.

Almost anyone writing about the problems of assuring members of ethnic minorities equality of educational opportunity concludes the review of statistics by recommending that we start to correct the injustices at the earliest possible age, and the logic of that position cannot be faulted. But even if we eradicated the poor learning environments of minority youngsters tomorrow, the prospective candidates for higher education in the next decade are already in the first grade. For at least the next several decades, higher education will be held accountable for devising the methods that can assist in eradicating the educational disadvantages of minority youth born in a majority culture. (From Beyond The Door, by K. Patricia Cross, 1971.)

While most educators accept the truism that not everyone should or can go to college, special services personnel and institution admissions officers also accept the responsibility for developing and testing alternative criteria for identifying individuals in these new-to-higher-education populations who can survive and productively pursue higher education. It is precisely this mandate which special services personnel and their institutions carry: (1) to explore why ethnic populations are not currently well represented, (2) to create methodologies for serving those populations, (3) to enable ethnic students to graduate from college with competitive skills, (4) to create or encourage students to create academic and social linkages which will minimize cultural and professional alienation from their ethnic communities.

Educators in Oregon need to recognize that provision of educational services for ethnic people in institutions of higher education serves both the ethnic populations and students of the majority population. The true challenge in Oregon, a state with a very small (5%) minority population, is to seek to serve indigenous ethnic populations while at the same time exploring the realistic needs for ethnic presence on its campuses, not only in respect to the state's responsibilities toward its ethnic residents but also its responsibilities to provide realistic educational opportunities for its majority population many of whom have little association with and know almost nothing about the nation's minority populations.
Even before the 1980 census data is released, Oregon's relatively monolithic white racial environment must be acknowledged. Blacks, Chicanos (Hispanic), American Indians, and Asians combined make up only about 5% of the population.

As one explores the Oregon census data and projections (Table II, p. 48) and K-12 educational system enrollment (Table I, p. 48), the obvious questions are (1) can Oregon realistically expect to provide true ethnic diversity on its eight state-supported campuses by drawing ethnic minority students from the in-state population, and (2) should the institutions support programs of out-of-state ethnic student recruitment?
### Table I

**ETHNIC STUDENT POPULATION, ELEMENTARY AND SECONDARY EDUCATIONAL SYSTEM, AS OF OCTOBER 1979**

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Total</th>
<th>Elementary</th>
<th>Middle/Jr. High</th>
<th>High School</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>White</td>
<td>248,263</td>
<td>91.5%</td>
<td>77,900</td>
<td>92.8%</td>
<td>135,802</td>
</tr>
<tr>
<td>Black</td>
<td>6,090</td>
<td>2.2%</td>
<td>1,084</td>
<td>1.3%</td>
<td>2,794</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6,981</td>
<td>2.6%</td>
<td>2,227</td>
<td>2.7%</td>
<td>3,531</td>
</tr>
<tr>
<td>Asian/Pacific/Indo-Chinese</td>
<td>5,178</td>
<td>1.9%</td>
<td>1,019</td>
<td>1.2%</td>
<td>2,187</td>
</tr>
<tr>
<td>Alaskan/American Indian</td>
<td>4,268</td>
<td>1.6%</td>
<td>1,512</td>
<td>1.8%</td>
<td>2,029</td>
</tr>
<tr>
<td>Russian</td>
<td>585</td>
<td>.2%</td>
<td>161</td>
<td>.2%</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>271,365</td>
<td>100.0%</td>
<td>83,903</td>
<td>100.0%</td>
<td>146,444</td>
</tr>
<tr>
<td>Total Minority</td>
<td>23,102</td>
<td>8.5%</td>
<td>6,003</td>
<td>7.2%</td>
<td>10,642</td>
</tr>
</tbody>
</table>

Source: State Board of Education, Management Services Division, Data Information Services

### Table II

**OREGON POPULATION BY ETHNIC CLASSIFICATION 1970 CENSUS DATA AND PROJECTIONS FOR 1978-1981**

<table>
<thead>
<tr>
<th>Race</th>
<th>1970 Census</th>
<th>Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>White</td>
<td>2,091,385</td>
<td>95.7%</td>
</tr>
<tr>
<td>Black</td>
<td>26,308</td>
<td>1.2%</td>
</tr>
<tr>
<td>Mexican/Chicano</td>
<td>34,577</td>
<td>1.6%</td>
</tr>
<tr>
<td>American Indian</td>
<td>13,510</td>
<td>.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>15,037</td>
<td>.7%</td>
</tr>
<tr>
<td>Other Races</td>
<td>4,451</td>
<td>.2%</td>
</tr>
<tr>
<td>Other NonWhite</td>
<td>49,700</td>
<td>2.0%</td>
</tr>
<tr>
<td>Total Population</td>
<td>2,185,268</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total Minority</td>
<td>93,883</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

1. Federal Census Bureau
2. State Employment Division, Research and Statistics
3. Legislative Commission on Indian Services
4. State Employment Division, Annual Planning Information, Research and Statistics
5. This figure appears to be an error. The State Employment Division is reviewing its data.
The clustering of ethnic minority populations into very narrow portions of the state increases the opportunity for serving or at least locating potential ethnic students. Unfortunately, there are some negative factors which also attend the ethnic cluster: unemployment, welfare, underemployment, crime, historical rejection of higher education as a viable alternative—all make contact and recruitment difficult.

The State Employment Division figures shown in Table III, below, illustrate one aspect of this problem. The Division projects that in 1981 7.8% of the white community will be classified as economically disadvantaged, i.e., people whose income is at a level lower than the federal poverty income guidelines. The percentages of ethnic people within this category range from 14% (Hispanic) to 20% (Black) of their population groups. In this projection Asians, Pacific Islanders, American Indians, and other groups are lumped together as Other, with 19% of the total classified as economically disadvantaged.

TABLE III

PROJECTION OF ECONOMICALLY DISADVANTAGED POPULATION IN OREGON FOR 1981

<table>
<thead>
<tr>
<th>Race/Ethnic Group</th>
<th>Population No.</th>
<th>%</th>
<th>Estimated Economically Disadvantaged No.</th>
<th>%</th>
<th>Column 4 is of Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>2,540,000</td>
<td>95.0%</td>
<td>199,000</td>
<td>89.6%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Black</td>
<td>40,000</td>
<td>1.5%</td>
<td>8,000</td>
<td>3.6%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>50,000</td>
<td>1.9%</td>
<td>7,000</td>
<td>3.2%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Other</td>
<td>43,000</td>
<td>1.6%</td>
<td>8,000</td>
<td>3.6%</td>
<td>19.0%</td>
</tr>
<tr>
<td>Total</td>
<td>2,673,000</td>
<td>100.0%</td>
<td>222,000</td>
<td>100.0%</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

2 Include Asians and Alaskan/American Indians

Source: State Department of Employment Research and Statistics Annual Planning Information Federal and State Census Data

Although every estimate of ethnic population suggests that the Mexican American community is the largest, they are a difficult population to identify. The Jefferson-Woodburn area and northeastern Oregon appear to be the largest identifiable concentrations. Alaskan/American Indians are dispersed in pockets all over the state. Portland, Klamath Falls, Eugene, and Warm Springs Reservation are the larger identifiable communities. At least 90% of Blacks in the state are estimated to live in the Portland metropolitan area.
Minority Group Participation: Access, Choice, Achievement, Some Observations and Comments

In this section of the report, we will examine the patterns of minority group participation in the Oregon State System of Higher Education using the most widely accepted measures of educational participation: access, choice, and achievement.

Statistics on enrollment comprise the major share of current empirical evidence on participation, but provide insight only into questions of access to institutions of higher education.

Information on degrees obtained by minorities is available and will be used as the best available evidence of achievement in college.

The other means of participation, choice, is the most elusive of the measures. Information available, while limited, provides useful insight into the reasons a student chooses a particular institution. For the purpose of the report, data from the 1981 post high school plans survey conducted by the Board's Office of High School Relations will be used to indicate choice of school by minority students and the reasons for this choice. Minority enrollment in State System institutions by institution and major field of study will also be employed in the analysis.

The problems of scarcity of data pertinent to the assessment of patterns of participation, and accuracy of self-reported data, must be recognized. All data collected providing identification and enumeration of ethnic minorities in the State System is self-reported. However, it is the considered opinion of most admissions and registrar personnel that the optional ethnic data filled in by the student on the application for admissions form provides the most accurate and defensible data available.

Populations Considered

This report is about the educational status in Oregon of four principal minority groups: Blacks, Hispanics, Asians/Pacific Islanders, and Native Alaskan/American Indians.

Throughout this report, data are presented contrasting minority participation with that of non-minorities. Such comparisons aid in interpretation of the data. It is not intended to suggest that every deviation from a white norm of participation should be considered undesirable. Precise arithmetic parity of participation among different populations is both impractical and unnecessary. Common sense must prevail in distinguishing differences that are reasonable and those that identify inequity.

National Trends in Minority Enrollment

Minority Enrollment Compared to Minority Distribution in Population

Distribution of minorities in the U.S. population compared to distribution of minorities in 4-year colleges and universities, Table V, below provides a view of the degree of underrepresentation of ethnic students in the nation's four-year colleges and universities.
Table V

MINORITY POPULATION IN THE UNITED STATES COMPARED TO MINORITY ENROLLMENT IN FOUR-YEAR COLLEGES AND UNIVERSITIES

<table>
<thead>
<tr>
<th></th>
<th>U. S. Population 1970 Census</th>
<th>Enrollment in 4-Year Schools Fall 1976</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Black</td>
<td>22,539,362</td>
<td>11.1%</td>
</tr>
<tr>
<td>Alaskan/American Indian</td>
<td>760,575</td>
<td>0.4%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1,791,003</td>
<td>0.9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9,294,509</td>
<td>4.6%</td>
</tr>
<tr>
<td><strong>Total Minority</strong></td>
<td>34,385,446</td>
<td>16.9%</td>
</tr>
<tr>
<td>Non-Minority</td>
<td>168,824,712</td>
<td>83.1%</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td>203,210,158</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>604,387</td>
<td>8.5%</td>
</tr>
<tr>
<td>Alaskan/American Indian</td>
<td>35,210</td>
<td>0.5%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>120,808</td>
<td>1.7%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>238,162</td>
<td>3.3%</td>
</tr>
<tr>
<td><strong>Total Minority</strong></td>
<td>999,567</td>
<td>14.0%</td>
</tr>
<tr>
<td>Non-Minority</td>
<td>6,119,540</td>
<td>86.0%</td>
</tr>
<tr>
<td><strong>Total Population</strong></td>
<td>7,119,103</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


Note: The immigration of Hispanics and Asians will have a substantial impact on future census data that may not be reflected in these figures.

Table V, column 2, shows the distribution of the principal racial and ethnic groups in the United States population as reported in the 1970 census. At that time, minority persons represented 16.9% of the total population, with Blacks and Hispanics comprising the largest minority groups. If, however, more detailed information showing age-cohorts is examined, the population distribution shifts. In 1970, minorities represented 17.4% of all persons in the United States 20-24 years of age. The higher birth rates of Hispanics, Blacks, and Alaskan/American Indians are reflected by their higher proportion in the younger cohorts relative to non-minority persons. By the year 1990, it is projected that minority persons will account for 22.4% of the 20-24 year age cohort, an increase of 5 percentage points over their proportion in 1970. While the number of non-minority persons in this age-group will decline from 1970 to 1990, the number of Blacks will increase 38%; Hispanics, 34%.

Projections of sharp declines for the total college-age population during the 1980s often fail to relate the rather different situation for the minority populations: the number of minority persons in the younger cohorts will continue to rise after the non-minority population has begun to fall resulting in the increase in the proportion of 18-24 year old population that is non-white indicated above.

This increase will affect higher education during the 1980s and early 1990s. Glenny (1980) points out, "... a major social issue arises out of these data, i.e., the results of the following trends, the drop in the number of 18 to 24 year olds, the increasing proportion of minority students, the smaller proportion of minorities graduating from high school, and the poor high school preparation of minorities, compound to create a much more discouraging condition for higher education in many places in the country than the mere drop in the number of college age youth."
Retention/Achievement
Nationwide

As noted earlier in this chapter, ethnic minorities have been historically underrepresented in U.S. colleges and universities. A major reason for this underrepresentation at least in recent years, is the lower retention and completion rates for minority students. According to Crossland's (1971) figures..."only 41 percent of the 1971 Black freshmen were seniors in 1974 compared with 57 percent of whites who were freshmen in 1971." Hence, as shown in Table V minority groups are approaching parity in college access, but remains a problem of drop-out before graduation which needs to be investigated.

Minority Enrollment in Oregon State System of Higher Education

Enrollment Compared to Minority Distribution in State Population

The distribution of minorities in the Oregon population compared to the distribution of minorities in State System institutions is presented in Table VI, below.

<table>
<thead>
<tr>
<th>Oregon Population 1970 Census</th>
<th>Enrollment State System Fall 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Black</td>
<td>26,308</td>
</tr>
<tr>
<td>Alaskan/American Indian</td>
<td>13,510</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>15,037</td>
</tr>
<tr>
<td>Hispanic</td>
<td>34,577</td>
</tr>
<tr>
<td>Other</td>
<td>4,451</td>
</tr>
<tr>
<td>Total Minority</td>
<td>93,883</td>
</tr>
<tr>
<td>Non-Minority</td>
<td>2,091,385</td>
</tr>
<tr>
<td>Total Population</td>
<td>2,185,268</td>
</tr>
</tbody>
</table>

1Includes foreign student population

Sources: State Department of Employment and OSSHE Management and Planning Services Division

Data on enrollment and population figures indicate that minority enrollment in State System institutions is substantially higher (6.1%) than Oregon's 1970 minority population (4.3%) and higher than current projected minority population reported in Table II, p. 48, (5.0%). Hispanics are somewhat underrepresented in access to State System institutions as compared to their proportion in state population. Black enrollment is proportionate to the state population and Asian and Pacific Islanders are overrepresented. These data seem to suggest that minorities as a group have achieved parity in college access. However, as is shown in Table VII, p. 53, this parity has been achieved by a substantial enrollment of nonresident ethnic students. It will be noted that non-resident students account for 23.9% of the total number of students identifying themselves as members of minority populations. The percentage of non-resident is 27.3% for Blacks, and 27.1% for Asian/Pacific Islanders, 16.7% for Alas/American Indians, and 17.7% for Hispanics. The impact of non-resident students is believed to be even greater than is shown in this table.
Table VII
MINORITY ENROLLMENT IN STATE SYSTEM INSTITUTIONS
BY ETHNICITY AND RESIDENCE CLASSIFICATION
FALL 1979

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Alas./Amer. Indian</th>
<th>Asian/Pacific Isl.</th>
<th>Hispanic</th>
<th>Total Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>UO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>104</td>
<td>12.7%</td>
<td>102</td>
<td>15.6%</td>
<td>313</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>80</td>
<td>9.8%</td>
<td>32</td>
<td>4.9%</td>
<td>161</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>22.5%</td>
<td>134</td>
<td>20.5%</td>
<td>474</td>
</tr>
<tr>
<td>OSU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>76</td>
<td>9.3%</td>
<td>229</td>
<td>35.0%</td>
<td>360</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>51</td>
<td>6.2%</td>
<td>41</td>
<td>6.3%</td>
<td>144</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>15.5%</td>
<td>270</td>
<td>41.3%</td>
<td>504</td>
</tr>
<tr>
<td>PSU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>341</td>
<td>41.7%</td>
<td>113</td>
<td>17.3%</td>
<td>538</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>49</td>
<td>6.0%</td>
<td>13</td>
<td>2.0%</td>
<td>87</td>
</tr>
<tr>
<td>Total</td>
<td>390</td>
<td>47.7%</td>
<td>126</td>
<td>19.3%</td>
<td>625</td>
</tr>
<tr>
<td>OCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>15</td>
<td>1.8%</td>
<td>17</td>
<td>2.6%</td>
<td>15</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>13</td>
<td>1.6%</td>
<td>6</td>
<td>0.9%</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>3.4%</td>
<td>23</td>
<td>3.5%</td>
<td>57</td>
</tr>
<tr>
<td>SOSC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>19</td>
<td>2.3%</td>
<td>31</td>
<td>4.7%</td>
<td>26</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>1.1%</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.3%</td>
<td>38</td>
<td>5.8%</td>
<td>35</td>
</tr>
<tr>
<td>EOSC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>19</td>
<td>2.3%</td>
<td>22</td>
<td>3.3%</td>
<td>11</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>22</td>
<td>2.7%</td>
<td>5</td>
<td>0.8%</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>5.0%</td>
<td>27</td>
<td>4.1%</td>
<td>36</td>
</tr>
<tr>
<td>OIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>15</td>
<td>1.8%</td>
<td>26</td>
<td>4.0%</td>
<td>25</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>7</td>
<td>0.9%</td>
<td>4</td>
<td>0.6%</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>2.7%</td>
<td>30</td>
<td>4.6%</td>
<td>42</td>
</tr>
<tr>
<td>UOHSC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resident</td>
<td>5</td>
<td>0.6%</td>
<td>5</td>
<td>0.8%</td>
<td>22</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>1</td>
<td>0.1%</td>
<td>1</td>
<td>0.1%</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>0.7%</td>
<td>6</td>
<td>0.9%</td>
<td>24</td>
</tr>
<tr>
<td>Total Enrollment</td>
<td>594</td>
<td>72.7%</td>
<td>545</td>
<td>83.3%</td>
<td>1,310</td>
</tr>
</tbody>
</table>

-53-