

DOCUMENT RESUME

ED 067 025

HE 003 331

TITLE Instructional Innovation in Oregon.  
INSTITUTION Oregon State Educational Coordinating Council,  
Salem.  
PUB DATE Jan 71  
NOTE 34p.  
EDRS PRICE MF-\$0.65 HC-\$3.29  
DESCRIPTORS \*Educational Change; Educational Finance;  
\*Educational Innovation; Financial Support; \*Higher  
Education; \*Individualized Instruction; \*State Aid

ABSTRACT

In 1969 the 55th Legislative Assembly established the Oregon Program of Grants for the Improvement of Undergraduate Instruction. The Legislature directed that the program be administered by the Oregon Educational Coordinating Council and provided for an Advisory Committee to guide the Council. All public higher education institutions were eligible to receive grants, and awards could be made not only for the improvement of established programs but also for the development of new courses. Projects funded under the Program have introduced techniques and changes in educational program content that represent notable innovations in college instruction, and the key element of almost all of the projects has been an emphasis on individualization of the learning process. In the present document, course and program descriptions of some of the innovative projects are presented. They include a student self-paced tutorial method of teaching certain undergraduate mathematics courses; an individualized instruction curriculum in auto-diesel technology; a law enforcement simulation project; a process-centered general biology course; and the development of an elementary German language course based exclusively on audio-visual media. (HS)

# INSTRUCTIONAL INNOVATION IN OREGON

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MTH 364  
Tutoring

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# INSTRUCTIONAL INNOVATION IN OREGON

The Oregon Program of Grants for the  
Improvement of Undergraduate Instruction

January 1971

**Educational Coordinating Council**

Richard L. Rosenberg, *Chairman*  
Floyd K. Stearns, *Executive Director*



**Oregon Educational Coordinating Council**

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**Lloyd Anderson**

**Mrs. John C. Cotton**

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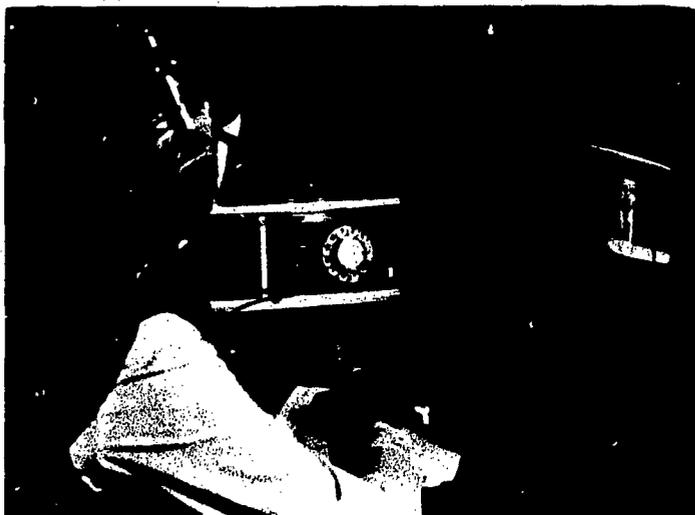
**Dale Parnell**

**Cleighton Penwell**

**Sen. Betty Roberts**

# Introduction

Many efforts have been made to improve undergraduate instruction, to inspire innovation in the classroom and to enhance learning at the collegiate level. From the perspective of the instructor, these objectives are not merely a matter of pedagogical technique, they also involve a system of professional rewards and recognition. Furthermore, sufficient time and materials must be made available for the development of new methods. In other words, an admonition to improve instruction must be accompanied by significant career incentives as well as the physical means of change.



When a State Legislative Assembly wishes to become involved in improving instruction, certain other distinct problems arise. A feeling of confidence and trust be-

tween the Legislature and the academic community must be inspired. Professional expertise as well as the freedom so important to effective teaching must be protected. It is not easy to accomplish the objective of improved instruction within these constraints. Examples of failure are not hard to find.

A *categorical grant* approach has the unique advantage of accommodating most constraints, at least to a minimal degree. In the first instance, "grantsmanship" is a significant element in career advancement and recognition. It testifies both to the willingness of the applicant to extend and augment his involvement in his profession while at the same time it is a means of gaining recognition. In addition, grants function to provide the physical means for innovation both by releasing time from regular duties and by making resources for materials and equipment available. Finally, if the regulations under which a



grant program is administered are drafted with the above considerations clearly in mind, confidence and freedom can be realized.



Following a rather extensive tour of Oregon collegiate campuses, the 55th Legislative Assembly established the Oregon Program of Grants for the Improvement of Undergraduate Instruction. The Legislature directed that the program be administered by the Oregon Educational

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Coordinating Council and provided for an Advisory Committee to guide the Council. All public post-high school institutions and educational organizations were eligible to receive grants, and awards could be made not only for the improvement of established programs but also for the development of new courses. An amount of \$750,000 was appropriated for the program for the 1969-71 Biennium.<sup>1</sup>



During the summer of 1969, the Advisory Committee drew up regulations under which the program was to be administered.<sup>2</sup> During the months of October and

<sup>1</sup> See Appendix A

<sup>2</sup> See Appendix B

November, 1969, campuses and eligible educational agencies were furnished with copies of these regulations. Copies of an abstract of the regulations and instructions for filing were also sent to all eligible faculty in the State. The Council staff visited campuses to explain the program.<sup>1</sup>

Two submission dates were specified in the regulations: December 1, 1969, and March 1, 1970. On the first submission date, 150 proposals requesting 4.3 million dollars were received. On the second submission date, an additional 137 applications requesting 2.5 million dollars were received.

In accordance with the regulations and consistent with usual practices, the process of revising and ranking the proposals was done by a panel of experts. The personnel of the panel were chosen from among the best available for this purpose. In particular, persons were chosen for their experience in reviewing educational proposals and for their demonstrated interest in undergraduate instruction.<sup>2</sup>

The recommendations of the panel were presented to the Educational Coordinating Council which approved funding for a total of 53 projects, expending \$698,354.55.<sup>3</sup>

The act makes specific reference to accountability, so the Council staff worked out processes by which both fiscal and program reporting could be accomplished. To

facilitate adequate program control, each applicant was required to propose a reporting schedule consonant with the substance of his program. The Council staff has maintained a continuous review of all projects by an examination of expenditure reports, program reports, and a schedule of visits to the various projects throughout the State.

Though it is hazardous to generalize, on the basis of projects submitted under this program, instructors generally perceive improvement to involve greater individuality in the learning process and frequently a focus on social issues as opposed to abstract ideas. Translated into pedagogical techniques, these principles resulted in various tutorial and self-directed learning procedures on the one hand and "learning by doing," or active engagement with the issues under examination, on the other hand. Taken together these principles illustrate that at least the instructors who participated in this program are taking the individual human interests of students more seriously than has been true in the past.



<sup>1</sup> See Appendix C    <sup>2</sup> See Appendix D    <sup>3</sup> See Appendix E

# Overview of the Funded Projects

Projects funded under the Program of Grants for the Improvement of Undergraduate Instruction have introduced techniques and changes in educational program content that represent notable innovations in traditional college instruction. The key element of almost all of the projects has been an emphasis on individualization of the learning process. The variety of approaches that have been adopted to reach this general goal can best be seen through an examination of a few of the projects themselves.

Many projects have attempted to achieve individualization through the use of programmed materials and self-pacing course structures. These methods have been used in a number of projects at both the two- and four-year institutions.

The Mathematics Department at Blue Mountain Community College has developed and implemented a program designed to meet the needs of students with varying degrees of experience and ability in mathematics by providing an annotated, bibliographic learning resource center. This center provides textbooks, tapes and other teaching materials that allow students to proceed at their own rate of learning.

*Too few classes offer such freedom of expression.*

..... Student

A programmed course in physical science developed by Michael Mitchell at Lane Community College uses tape-recorded learning units that are synchronized with slides and films. Students in this class are free to use these materials throughout the day; the students proceed from unit to unit at their own rate.

Dr. William Sheppard has introduced a programmed psychology course at the University of Oregon that relies on an interview procedure to insure that each student has mastered each section of the course before proceeding to a new section. The interviews are conducted by the students in the course as well as by the instructor and teaching assistants. Thus each student has the opportunity to review the material both as an interviewer and an interviewee.

Another approach used in several projects to increase individualization of learning could be called a "learning by doing" approach.

Project "PLUS" under the direction of Julius Wilkerson at Portland State University has developed an undergraduate core-curriculum for disadvantaged students that stresses an inductive, problem-solving approach to the learning process. This curriculum introduces the student to science, arts and letters, and social science through an involvement in real-world problems which are relevant to his own interests and experiences.

Another project which stresses the "learning by doing" approach is being conducted by Michael S. Inoue of the Industrial Engineering Department at Oregon State University. This project involves engineering students from Oregon State and technology students from Chemeketa Community College. The students work together in teams to solve simulated industrial problems that are similar to the kind of problems they might encounter in actual work situations.



*I feel I have learned more in this class than any class I have ever taken. If each methods course could be this complete we would be well prepared to become teachers.*

..... Student



Dr. Joseph Allman has developed a project in political science at the University of Oregon to involve undergraduate students in the identification and solution of community problems in Oregon. The students learn about the political processes at the community and state levels through actual involvement in community problems.

The "learning by doing" approach also plays an important part in a teacher training program being conducted by Dr. Gerald Becker at Oregon State University. The project is designed to prepare prospective teachers in effective group discussion techniques by involving them in group discussions with both their fellow students and public school students. Dr. Becker is making use of video tape equipment to allow students to observe themselves in practice leadership sessions.

Several of the projects have combined the "learning by doing" approach and programmed course material to achieve individualization of learning.

Dr. Clifford Gray has used this combination in a project for computer-assisted individualized instruction in business administration at Oregon State University. The project allows students to solve simulated business problems, using a computer. The student learns about business decisions through the process of actually making these decisions; the use of remote computer terminals allows each student to progress at his own pace.

Another project that combines elements of "learning by doing" with a self-pacing structure is a nursing

education course under the direction of Mary Fiorentino at Lane Community College. A series of 14 learning packets direct students in a nursing fundamentals course that includes laboratory experiences both at the college and in the community.

Many of the projects funded under the Program of Grants for the Improvement of Undergraduate Instruction have attempted to focus on individualization of learning through changes in course content.

An innovation in the traditional course content for teaching Shakespeare at the University of Oregon has been introduced by Dr. Waldo McNeir. The project

places the entire emphasis of the course on an audio-visual presentation of various performances of Shakespearean plays. This represents a significant change from the traditional course content, which relied on the performance of plays as only a supplement to analysis of them in their written form.

An important innovation in the course content of undergraduate chemistry courses has been achieved by Dr. Bernhard Binder at Southern Oregon College. His project involves the development and implementation of computer-aided, in-class demonstrations designed to improve the student's understanding of abstract chemical principles.



*I have found myself devoting far more time and effort to this project than I would in a normal classroom situation.*

..... Student

*I feel much more challenged in this class than I ever have in the past.*

..... Student

This brief summary of projects funded under the Grants for the Improvement of Undergraduate Instruction Program deals with only a few of the many innovative approaches that have been employed by faculty members in Oregon's public two- and four-year institutions. Most of the projects have begun to exhibit significant progress in improving instruction at the undergraduate level, even though many of them have been in operation for only one term.

In addition to the progress that most of the projects have already shown in improving the quality of undergraduate instruction in individual classes, several of the funded projects have also had a significant impact on the institutions and communities within which they are operating.

A reading education project under the direction of Dr. Gwyneth Britton at Oregon State University has been so well received that additional funding for the project has been provided by schools participating in the project.

Another example is the course in Engineering for the Seventies at Oregon State University. In this project

Dr. Robert Filmer has involved undergraduate students in studying community problems, such as the proposed relocation of the Corvallis airport.

At Portland State University, the response to a program of tutorial instruction in the Mathematics Department has led the Department to extend the program to many more classes than were funded by the original project.

Since his project in biology has been in operation at Portland State University, Dr. Glenn Murphy has been appointed head of the General Science Department.

The techniques that have been developed by Dr. Frederick Harris in philosophy at Oregon State University have been so successful that they are being extended to other undergraduate philosophy classes.

An example of the impact of one project on other educational institutions can be seen in the adoption of the auto-diesel technology course, developed by Howard Dull at Lane Community College, by both high schools in the Eugene area and by the local apprenticeship program.

*It gave me an opportunity to go deeper into the areas that interested me the most.*

.....Student



# Illustrative Programs

## Student Self-Paced Tutorial Method of Teaching Certain Undergraduate Mathematics Courses

Institution: Portland State University  
Director: J. Richard Byrne

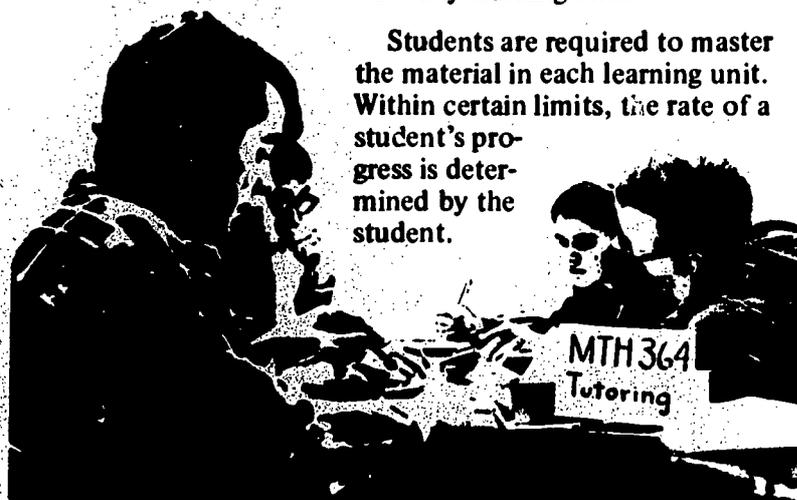
The method of teaching a course is an important variable in the educational process. The Mathematics Department at Portland State University is testing whether a new teaching method results in more effective and efficient learning for undergraduate students enrolled in beginning college mathematics and statistics courses. The new method is a tutorial approach where students receive instruction suited to their abilities and rate of progress.

The design of the tutorial program involves segmenting the material of each course into 15 to 20 learning units. In addition to the text, students are provided with supplementary materials prepared by the faculty. Available to the student is a specially equipped tutorial room. The room is manned daily by two or more tutors or instructors. Students in the program are encouraged to use the tutorial room whenever they have difficulties with any learning unit.

*The method of teaching this course, in my opinion, is very good and I would highly recommend this method of instruction for other math courses.*

..... Student

Students are required to master the material in each learning unit. Within certain limits, the rate of a student's progress is determined by the student.



A student can go to the tutorial room whenever he is ready and take a short test (about 15 minutes in duration) on the unit he has studied. Upon completion of the test, the student moves to a chair beside the tutor, and the tutor grades the test. With this system, the student gets instant feedback and corrective discussion on the parts where he erred. If he passes the test, he proceeds to study the next unit. If not, he can come back when he is ready and take alternative versions of the test as many times as necessary until he has mastered the unit.

This project is designed to solve some of the instructional problems inherent in the traditional lecture approach in mathematics. The tutorial program allows students to progress at their own rate. Furthermore, the program requires students to gain a certain level of proficiency before advancing to the next learning unit.

The preliminary evaluations of the tutorial program are encouraging. Students are impressed with the personal assistance they receive. Many students have commented that their fear of failure has been removed.

The tutorial program is now operational in several basic undergraduate mathematics courses. The success of the program will be determined by comparing the students in the program with students who are in sections where traditional lecture techniques are used. If the program proves to be a success, Dr. J. Richard Byrne, the director of the project, plans to expand the program in future years. Already, other institutions have expressed an interest in this project.

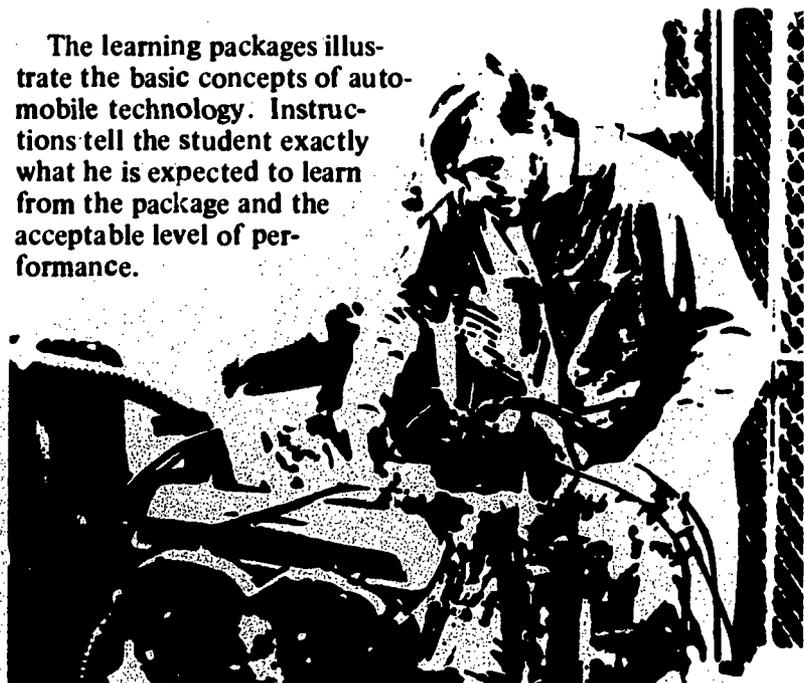


## Individualized Instruction Curriculum in Auto-Diesel Technology

Institution: Lane Community College  
Director: Howard Dull

The auto-diesel program at Lane Community College is designed to permit greater individuality in the learning process. At the present time, the auto-diesel program must meet the needs and goals of students in three programs: the day program, the adult education program, and the apprenticeship program. Students in these three programs have diverse backgrounds, so the instructional materials have been organized into a series of learning packages. The instructional packages allow students to enter the program at different points, depending on their skill levels, and to progress at their own rate.

The learning packages illustrate the basic concepts of automobile technology. Instructions tell the student exactly what he is expected to learn from the package and the acceptable level of performance.



*I learned more than I thought I could when I began.*

..... Student

Each package explains why the material should be learned and lists the benefits of mastering the unit. The learning packages are supplemented with audio-visual aids, small group discussions, lectures, text material, laboratory work, and field trips.

After a student completes a unit, he is tested on the material in that area. If he passes the examination, he proceeds to the next unit.

This approach in the auto-diesel program was implemented in the fall term of 1970. According to Howard Dull, the project director, the set of learning packages represents an improvement in vocational training. Students with various backgrounds in automobile technology are able to spend more time on their weak areas and less time on material they know well. The students feel the learning packages provide them with a more comprehensive background.

The success of the project has prompted other schools to adopt a similar approach. Several high schools are acquiring the instructional materials developed at Lane Community College for use in their automotive programs. Instructors in other types of vocational programs are exploring the possibility of using this individualized approach also.



## Law Enforcement Simulation Project

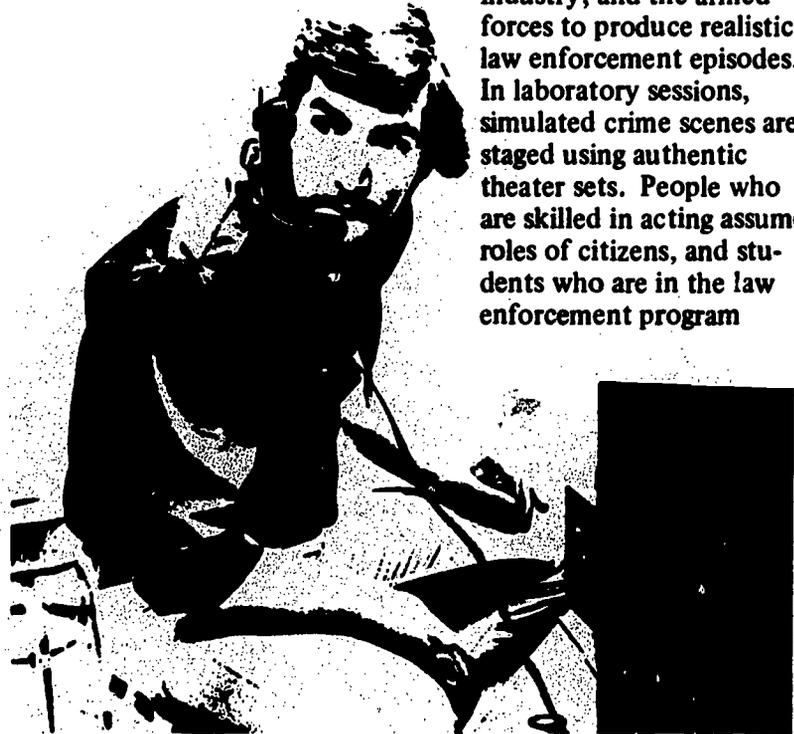
Institution: Portland Community College  
Director: B. F. Emery

A law enforcement project at Portland Community College is directed at providing a more effective program by utilizing "simulated law enforcement experiences." The project allows the students to participate in real-life situations, but avoids the risk of injury to themselves and others.

The method of approach is to use techniques developed in the theater arts, the television industry, and the armed forces to produce realistic law enforcement episodes. In laboratory sessions, simulated crime scenes are staged using authentic theater sets. People who are skilled in acting assume roles of citizens, and students who are in the law enforcement program

*I feel I have learned more by this method than any other.*

..... Student



assume roles of police officers. Each episode is videotaped, and students who are not participating in a particular episode are able to view the performance.

The episodes are designed to illustrate basic situations that confront police officers relating to the law, traffic and patrol, criminal investigation, jail procedures, and corrections. Almost every course within the existing police science curriculum has practical aspects that can be presented in a simulated setting.

After each laboratory session, the instructor discusses with the students their application of police procedure. Errors the students make in their roles as police officers are identified, and alternative approaches are examined. When appropriate, people who have technical skills in relevant areas are invited to the laboratory sessions to assist the students in their practice of police procedure.

The reaction to this new teaching method is favorable and enthusiastic. According to B. F. Emery, the director of this project, the simulated experiences increase job proficiency while reducing the length of time it takes to achieve professional competency. Student reaction is equally enthusiastic. One recruit commented that he felt under greater pressure in the simulated situation than in the real-life situation. Students wanted more exposure to law enforcement situations.



## Process-Centered General Biology

Institution: Portland State University  
Director: Dr. Glenn Murphy

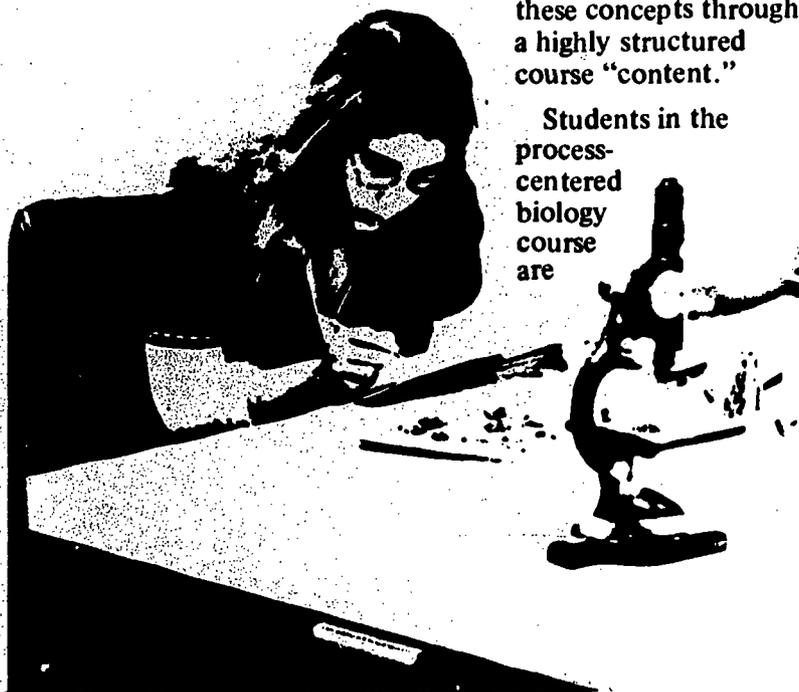
The process-centered approach instituted by Dr. Glenn Murphy at Portland State University is intended to improve undergraduate instruction in general biology by increasing effectiveness in the development of scientific attitudes, problem-solving ability, and student interest. As the term "process-centered" implies, students in this course are introduced to the general concepts of biological science through actual participation in the scientific process of "doing biology." In the traditional approach to teaching biology, the major emphasis is usually placed on intro-

ducing the student to these concepts through a highly structured course "content."

Students in the process-centered biology course are

*You have more freedom to discuss problems with a lab instructor without feeling like an idiot.*

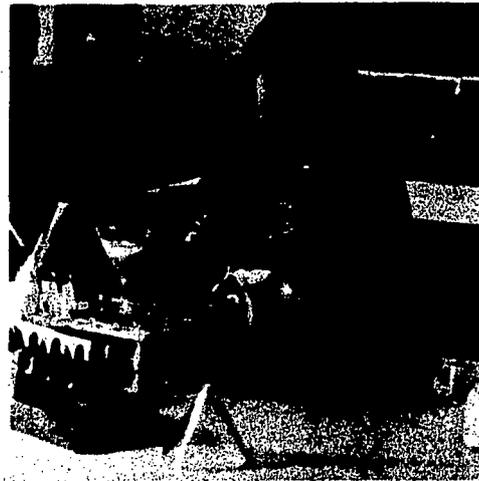
..... Student



presented with basic questions of biological science through one lecture each week. Small group discussion sections then give the students an opportunity to seek answers to these general questions by more specific inquiry to derive clues regarding the general answers. Specific interests the students develop in the small group discussions are then directed toward the identification of laboratory experiments that allow the students to test alternative answers to biological problems.

The response of students to process-centered biology has been positive. Undergraduates who were taking the course only to satisfy course requirements have found themselves deeply involved in conducting complicated scientific experiments using a special laboratory and equipment provided by funds from the grant. Comments by students indicate their enthusiasm for this approach, resulting largely because they can pursue their own special interests in biology and at the same time gain a general knowledge of the subject. Many students remarked that they had learned as much from hearing the results of other students' experiments as they did from their own.

After the process-centered approach has been used for a whole year, Dr. Murphy will use standardized tests to compare the performance of students in the course to that of students in traditional courses. These comparisons will enable the General Science Department at Portland State University to reassess its course offering in general biology, as well as other courses within the Department.



A programmed course in physical science developed by Michael Mitchell at Lane Community College uses tape-recorded learning units that are synchronized with slides and films. Students in this class are free to use these materials throughout the day; the students proceed from unit to unit at their own rate.

## Development of an Elementary German Language Course Based Exclusively on Audio-Visual Media

Institution: University of Oregon  
Director: Dr. Helmut R. Plant

The elementary German language course being developed by Dr. Helmut Plant at the University of Oregon is designed to make language instruction more relevant to the diverse needs of the individual student and to insure that each student gains a useful level of competence in conversational German.

The most important element of this course is its exclusive use of audio-visual media. The entire course is based on a series of films produced in Germany for a televised language course. Dr. Plant has used these films, in conjunction with a series of recorded vocabulary lessons and sound track itself, to create

tapes of the film a German language course that separates the listening and speaking aspects of foreign language instruction from

*The fear of failure. . . that old panic. . . has been removed.*

..... Student



the reading and writing aspects. The films are based on short real-life scenes such as might be encountered by a person actually visiting Germany.

Another important aspect of this course is that its programmed structure enables the student to set his own rate of advancement. This structure would also make the dissemination of the entire course to other institutions quite easy.

Dr. Plant also plans to develop a special course which is entirely devoted to the development of reading skills at the introductory level. This course would complement the conversational course which is described here. These two alternative courses would better meet the special needs of students for either conversational or reading ability in German than do traditional language courses. Students who wished to develop both types of skills could take both courses since either the conversational or the reading course would not carry as many credits as current language courses.



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## Appendix A

### CHAPTER 566, OREGON LAWS 1969

#### AN ACT

Relating to the Educational Coordinating Council; appropriating money; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

**Section 1.** The Educational Coordinating Council shall administer a program of grants or awards to encourage the development or implementation of alternative techniques or procedures designed to improve instructional effectiveness or efficiency in public two-year colleges and four-year institutions of higher education in Oregon. Such grants or awards may be made to instructional personnel, the institutions or their subdivisions, or other public educational agencies and may be made to instructional personnel in the form of salary augmentation to encourage or reward efforts under this program.

**Section 2.** The Educational Coordinating Council shall develop criteria for the preparation of applications and procedures for the submission, evaluation, priority selection and award of such grants or awards. The council's criteria and procedures shall be designed to assure that:

(1) Projects are directed primarily to the improvement of undergraduate instruction.

(2) Project objectives are stated clearly and the effectiveness of a project is capable of objective evaluation in terms of the improvement of instructional effectiveness and efficiency.

(3) The project design provides a basis or procedure for the objective evaluation of its effectiveness through a demonstration of the learning achievements of students.

(4) Projects have administrative and fiscal feasibility, there is evidence of departmental and institutional commitment to support and implement the project, and there will be cooperation with the council in an evaluation of the effectiveness of the object.

**Section 3.** The Educational Coordinating Council shall administer a program designed to stimulate the development of courses of study or parts of courses to improve instructional effectiveness or efficiency in public two-year colleges and four-year institutions of higher education in Oregon. The council may contract with the State Department of Higher Education or other appropriate public educational agencies to develop program materials and to establish a mechanism at each institution for the purpose of introducing the materials and implementing the techniques.

**Section 4.** The project authorized by this Act should be designed to:

(1) Develop and test courses of study or parts of courses which feature predictable student achievement of prestated student performance objectives. The council should give priority to lower division, high enrollment courses or parts of such courses.

(2) Stimulate the implementation of innovative approaches to instruction within the various institutions, providing training programs as necessary to familiarize faculty and administrators with newly developed instructional methodology.

**Section 5.** The Educational Coordinating Council shall appoint an advisory committee which is broadly representative of the institutions and with such other members as the council deems appropriate, to assist the council in carrying out the provisions of this Act.

**Section 6.** The Educational Coordinating Council shall submit semi-annually a report to the Legislative Fiscal Committee containing a summary of the activities under this Act for the period covered by the report.

**Section 7.** There is appropriated to the Educational Coordinating Council, for the biennium beginning July 1, 1969, out of the General Fund, the sum of \$500,000, for the purpose of carrying out the provisions of sections 1 and 2 of this Act, and the sum of \$250,000, which sum may be expended only for the purpose of carrying out the provisions of sections 3 and 4 of this Act.

**Section 8.** This Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this Act shall take effect July 1, 1969.

## Appendix B

### AD HOC ADVISORY COMMITTEE ON THE IMPROVEMENT OF INSTRUCTION

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## Appendix C

### REGULATIONS PERTAINING TO APPLICATIONS FOR GRANTS AND CONTRACTS TO BE AWARDED UNDER CHAPTER 566, OREGON LAWS 1969

#### Section 1. Purpose.

The purpose of the Act is to encourage instructional personnel to develop or implement alternative techniques or procedures of instruction and to stimulate the development of courses of study or parts of courses to improve instructional effectiveness or efficiency in public two- and four-year institutions of higher education in Oregon.

#### Section 2. Definitions.

*ACT* means the program for improvement of instruction set forth in Chapter 566, Oregon Laws 1969.

*COUNCIL* means the Educational Coordinating Council

*UNDERGRADUATE* means any post-secondary nongraduate course of instruction.

*APPLICANT* means any public-supported two- or four-year institution of higher education, its departments, instructional personnel and other public-supported educational agencies in Oregon.

*INSTITUTION* means any public-supported two- or four-year college or university in Oregon.

*PUBLIC EDUCATIONAL AGENCY* means any public-supported educational agency such as the Department of Higher Education or Department of Education.

*GRANTEE* or *CONTRACTOR* means any public-supported two- or four-year institution of higher education or other public-supported educational agency in Oregon which is awarded a grant.

*GRANT* means an award of funds to an applicant under the provisions of the Act and these regulations. "Small grants" will range up to \$5,000. Grants of \$5,000 or more will be referred to as "large grants."

#### Section 3. Eligible Programs and Projects.

Funds available under the Act may be used by the Council to

award grants and contracts to eligible applicants to pay all or part of the cost of developing, implementing and evaluating programs or projects designed to carry out the following purposes:

1. To encourage the development or implementation of alternative techniques or procedures designed to improve instructional effectiveness or efficiency of undergraduate instruction in public two-year colleges and four-year institutions of higher education in Oregon.
2. To develop and test courses of study or parts of courses to improve instructional effectiveness or efficiency. In this connection, projects may be designed to:
  - a. Develop and test courses of study or parts of courses which feature predictable student achievement of pre-stated student performance objectives.
  - b. Stimulate the implementation of innovative approaches to instruction with the various institutions providing training programs as necessary to familiarize faculty and administrators with newly developed instructional methodology.

#### Section 4. Eligible Applicants.

1. The Council is authorized to award grants\* to institutions of higher education in Oregon.
2. The Council may also contract with other public educational agencies such as the Department of Higher Education and the Department of Education.
3. The Council is also authorized to award grants to a grantee institution or agency in behalf of departments and instructional personnel.

#### Section 5. Applications for Grants and Contracts.

Any applicant eligible for a grant or contract may submit an application on or before the dates prescribed below and in accordance with the following instructions.

First Submission Date--Applications for the first submission date shall be received at the Educational Coordinating

\*Large and small grants are available under this program.

Council office, 670 Cottage Street N.E., Salem, Oregon 97310, no later than 5:00 p.m., *December 1, 1969.*

**Second Submission Date**—Some funds will be available for applicants at the second closing date for those who cannot meet the first closing date. Applications for the second submission date shall be received at the Educational Coordinating Council office, 670 Cottage Street, N.E., Salem, Oregon 97310, no later than 5:00 p.m., *March 1, 1970.*

Such an application shall contain:

1. A title page (use the title page model, Appendix A).
2. A description of the problem with which the project intends to deal and a clear statement of project objectives and means for measuring and objectively evaluating the project in terms of instructional effectiveness or increased efficiency.
3. A description of the methods by which the project objectives are to be reached.
4. A schedule and format for reporting project progress.
5. A description of the procedure for measuring the degree to which the objectives have been reached.
6. A description of the qualifications of the staff assigned to the project.
7. A justification of the amount of grant or contract funds requested. (Use the budget model, Appendix B.)
8. Evidence of institutional and departmental endorsement of project.

#### Section 6. Number of Copies.

Applicants shall submit ten (10) copies of their applications as prescribed in Section 5 of these regulations.

#### Section 7. Review of Applications.

Applications for a grant or contract under this Act will be reviewed by a panel of experts and specialists, or other expert reviewers if deemed appropriate by the Council. The review panel shall apply the following criteria:

1. The importance of the instructional problem with which the project will deal.

2. The extent to which project objectives are measurable in terms of changes in student behavior or achievement resulting from instruction.
3. The appropriateness of the procedure by which attainment of the project objectives will be measured.
4. The administrative and economic feasibility of the means by which the project objectives will be attained.
5. The probable impact of the project on a large number of students in a course, in parts of courses, or in large classes.
6. The extent to which the results of the project can be generalized to other programs of instruction.
7. The extent of departmental and institutional commitment to the project.
8. The extent to which cooperation between institutions and segments of education is a planned part of the project.

The procedures for review of project proposals shall include:

1. A preliminary review of project proposals by the Council staff to ensure that each proposal is complete and meets the requirements for submission.
2. A review of project proposals by a review panel of experts and specialists, or other expert reviewers as determined by the Council staff to rate and rank the proposals in terms of the factors outlined in Section 7 above.
3. A review of the rankings by the Council which will award the grants and contracts. The Council, in awarding grants and contracts, shall give consideration to:
  - a. The distribution of a certain number of dollars to small grants and individual instructional personnel.
  - b. The encouragement of instructional improvement within *both* the two- and four-year public institutions of higher education.

#### Section 8. Distribution of Awards.

Awards under the Act will be made on two dates:

1. **First Award Date**—Awards shall be made following the January 15, 1970 meeting of the Council.
2. **Second Award Date**—Awards shall be made following the April 16, 1970 meeting of the Council.

#### **Section 9. Disposition of Application.**

On the basis of its review of an application pursuant to Section 7, the Council will either:

1. Approve the application in whole; or
2. Approve the application in part; or
3. Disapprove the application; or
4. Defer action on the application.

Any deferral or disapproval of an application shall not preclude its reconsideration or resubmission.

The Council will notify the applicant in writing immediately following the award date of the disposition of the application.

If the Council awards a grant or contract, the award document will incorporate the provisions of these regulations and include such other terms and conditions as are applicable.

#### **Section 10. Appeal Procedure.**

1. Any applicant dissatisfied with Council action on his project proposal, within five (5) days of notice of such action, may declare his intent to appeal for a review of that action. The Council, thereupon may and in a manner prescribed by it, hear the appeal.
2. Any applicant dissatisfied with Council action to terminate his project as described in Section 21, within five (5) days of notice of intent to terminate, may declare his intent to appeal for a review of that action. The Council, thereupon and in a manner prescribed by it, shall hold a hearing within thirty (30) days from notice to terminate. The hearing shall include a review of Council action and any new material or data presented by the applicant. The Council will thereupon make a conclusive decision.

#### **Section 11. Amount of Grant or Contract.**

The amount of the grant or contract shall be set forth in the award document. The total cost to the Council for performance of the grant or contract will not exceed the amount set forth in the award document or any appropriate modification thereof.

The Council shall not be obligated to reimburse the grantee or contractor for costs incurred in excess of such amount unless or until the Council has notified the grantee or contractor in writing that such amount has been increased and has specified such increased amount in a revised award document pursuant to Section 13. Such revised amount shall thereupon constitute the revised total cost of the performance of the grant or contract.

#### **Section 12. Duration of the Program or Project.**

1. All payments made with respect to each grant or contract shall remain available for expenditures during the budget periods specified in the grant or contract award document or until otherwise terminated in accordance with Section 21. Such period may be extended by revision of the grant or contract without additional funds pursuant to paragraph "2".
2. When it is determined that special or unusual circumstances will delay the progress of the program or project for which the grant or contract is awarded, the grantee or contractor shall in writing request the Council to extend the program or project, and shall indicate the reasons for the extension.
3. Notwithstanding the provisions of paragraphs "1" and "2" above, no financial assistance may be given under the Act to any program or project beyond two (2) years of the contract award date.

#### **Section 13. Revisions.**

1. In order for a grant or contract to be materially changed, or for the amount of the grant or contract award to be increased pursuant to Section 11, the grantee or contractor shall submit to the Council a written request in advance of such change. Deviations of specific amounts of expenditures (10% or less) among categories from those estimated in the budget set forth in the grant or contract award document will not require revision of such application.
2. Revisions shall be submitted in writing and reviewed by the Council. Such revisions may be initiated by the Council if funds are not being used according to the terms

of the grant or contract, or if changes are made in Council appropriations, laws, regulations, or policies governing such grants or contracts.

#### **Section 14. Payment Procedure.**

Council payment may be made either by way of reimbursement or in advance, to be determined consistent with the nature of the activities and the services involved in the program or project, and in accordance with the requirements of these regulations and the terms and conditions of the grant or contract award.

Neither the approval of a grant or contract nor any payment to a grantee or contractor shall be deemed to waive the right or the duty of the Council to withhold or recover funds by reason of the failure of the grantee or contractor to observe any of the requirements of the Act, the regulations, or the award document.

#### **Section 15. Fiscal Accounting and Auditing Procedures.**

1. **Fiscal Accounting.** The grantee or contractor shall maintain accounts, records, and other evidence pertaining to all costs incurred, and revenues or other applicable credits acquired. The system of accounting employed by the grantee or contractor shall be in accordance with generally accepted accounting procedures used by the grantee or contractor and will be applied in a consistent manner so that expenditures under the grant or contract may be clearly identified.
2. **Auditing Records.** Each grantee or contractor shall make appropriate provision for the auditing of the program or project expenditure records referred to in paragraph "1".

#### **Section 16. Allowable Costs.**

Allowable costs for any approved grant or contract under this Act may include those costs which are reasonably attributable to the conduct of programs and projects supported by the grant or contract. Such costs may include:

1. Salaries, wages, and other personnel service costs of permanent and temporary staff employees, members of advisory groups and consultants for the performance of

services reasonably related to programs and projects supported by the grant or contract.

2. Travel expenses of persons referred to in paragraph "1" which shall be in accordance with applicable agency or institutional practices; or, if there are no such applicable regulations and practices, in accordance with Council travel regulations.
3. Acquisition, maintenance (including insurance), and repair of equipment, supplies, teaching aids, and other materials. Equipment shall be purchased with grant or contract funds only when it is considered essential to accomplish the purposes of the grant or contract.
4. Rental of space (including the cost of utilities and janitorial services) in privately or publicly-owned buildings—if such space is in addition to the normal space requirements for a course of study and is required by the project.
5. Production and acquisition of printed and published materials, including records, films, tapes, and other media materials.
6. Communications.
7. Minor remodeling and alterations in previously completed building space (but not construction of new buildings or structural alteration of existing buildings).
8. Indirect costs may be negotiated as terms of a major contract. A grantee or contractor shall compute indirect costs on the basis of the principals for indirect cost determination set forth in the Bureau of the Budget Circular A-21 as amended.

#### **Section 17. Retention of Records.**

1. Each grantee or contractor shall provide for keeping accessible and intact all records supporting claims for Council funds and relating to the accountability of the grantee or contractor for expenditure of such funds:
  - a. for three (3) years after the close of the budget period in which the expenditures were made by the grantee or contractor; or
  - b. until the grantee or contractor is notified of the completion of a State fiscal audit, whichever is earlier.

2. The records involved in any claim or expenditure which has been questioned by the Council fiscal audit shall be further maintained until necessary adjustments have been made and the adjustments have been approved by the Council.

#### Section 18. Reports.

The grantee or contractor shall submit such program or project and fiscal reports as may be required by the Council and in the quantity and at the times stated in the application schedule and award document.

#### Section 19. Publications.

Material produced as a result of any program or project supported with grants or contracts under this Act may be published without prior review by the Council *provided* that a copy of such material shall be furnished to the Council.

#### Section 20. Patents and Copyrights.

1. Any material of a copyrightable nature produced through a program or project supported with grants or contracts under this Act shall be subject to the copyright policy of the Council. Provisions implementing this policy shall be included in the terms and conditions of the award document.
2. Any material of a patentable nature produced through a program or project supported with grants or contracts under this part shall be subject to the patent policy of the Council. Provisions implementing this policy shall be included in the terms and conditions of the award document.

#### Section 21. Termination of Grant or Contract.

1. Any grant or contract may be terminated by the Council:
  - a. If it determines that the program or project is no longer demonstrating or is not likely to demonstrate productive results; or
  - b. If the grantee or contractor fails to comply with any grant or contract requirement or condition.
2. Where action is taken under this section, the Council may authorize the expenditure of Council funds in such

amounts as may be deemed necessary for the purpose of terminating the program or project financed by the grant or contract which is being terminated.

#### Section 22. Use and Disposition of Equipment.

1. *Definition.* As used in this section, the term "equipment" means nonconsumable personal property to be used in the performance of the grant or contract and having a useful life expectancy of greater than one year.
2. *Use.* Equipment purchased with grant or contract funds shall be used only to accomplish the purposes of the grant or contract unless another use is approved in writing by the Council. The grantee or contractor shall maintain current inventory of all such equipment and shall safeguard and protect all such equipment in accordance with prudent property management practices.
3. *Disposition.* Title to equipment purchased with grant or contract funds remains with the grantee or contractor.

#### Section 23. Service Contracts.

A grantee or contractor may enter into an agreement, contract, or subcontract to provide services under the grant or contract if services to be so provided are specified in the application and if the agreement, contract, or subcontract has been approved in writing by the Council. Such an agreement, contract, or subcontract shall be acceptable only if the Council is assured that the grantee or contractor will retain the responsibility for the administration and the supervision of the program or project.

#### Section 24. Final Accounting.

In addition to such other accounting as the Council may require, the grantee or contractor shall render to the Council a full accounting of:

1. Funds expended, obligated, and remaining under the grant or contract.
2. All equipment and materials purchased with Council funds.
3. All instructional materials developed for use in the program or project.

A report of such accounting shall be submitted to the Council within 90 days of the expiration or termination of the grant or contract and the grantee or contractor shall remit within 30 days of the receipt of a written request therefor any amounts found by the Council to be due.

#### **Appendix D**

#### **REVIEW PANEL IMPROVEMENT OF INSTRUCTION**

**Dr. John M. Bevan**  
Academic Vice President  
University of the Pacific  
Stockton, California 95204

**Dr. Milton Hildebrand**  
Chief of Faculty  
University of California at Davis  
Davis, California

**Dr. Frederic Giles, Dean**  
College of Education  
University of Washington  
Seattle, Washington 98105

**Dr. Robert O. Hatton**  
President  
El Paso Community College  
Colorado Springs, Colorado  
80903

**Dr. Keith Goldhammer, Dean**  
College of Education  
Oregon State University  
Corvallis, Oregon 97331

**Dr. Dorothy M. Knoell**  
Dean for Academic Programs  
Office of the Chancellor  
California Community Colleges  
Sacramento, California 95814

**Appendix E**  
**PROJECTS FUNDED**  
**First Closing Date**

Director	Institution	Department	Dollars
Ronald Wynn	Oregon College of Education	Music	\$ 3,937.91
James Weems	Eastern Oregon College	Education and Psychology	3,000.00
R. A. Hermens	Eastern Oregon College	Chemistry	4,985.00
William Sheppard	University of Oregon	Psychology	2,500.00
Fuller Moore	University of Oregon	Architecture	4,990.00
William Meulemans	Southern Oregon College	Political Science	4,629.00
Winifred Casterline	Mt. Hood Community College	Language Arts	37,806.00
Glenn Murphy	Portland State University	General Science	6,398.67
Lloyd Sorenson	University of Oregon	History	13,300.00
James Nord	Teaching Research Division		88,768.00
Clifford Gray	Oregon State University	Business Administration	7,458.00
L. G. Harter	Oregon State University	Economics	8,654.00
Robert Ross	Linn-Benton Community College	Biology	8,085.00
Robert Misley	Clackamas Community College	Developmental Center	10,060.00
Michael Mitchell	Lane Community College	Science	17,939.45
David Hardesty	Oregon State University	Art	9,127.08
J. W. Nibler	Oregon State University	Chemistry	6,130.00
F. P. Harris	Oregon State University	Philosophy	9,004.90
William Aldridge	Oregon State University	Education	4,772.00
Gwyneth Britton	Oregon State University	Elementary Education	7,566.00
J. Richard Byrne	Portland State University	Mathematics	25,000.00
Norman Rose	Portland State University	Chemistry	5,763.00

**Total**

**33**

**\$289,874.01**

## PROJECTS FUNDED

### Second Closing Date

Director	Institution	Department	Dollars
Helmut Plant	University of Oregon	Russian and German	\$ 4,344.81
Joseph Allman	University of Oregon	Political Science	37,802.50
Henry Dizney	University of Oregon	Educational Psychology	4,779.89
Frederick Hirsch	Oregon College of Education	Geography	12,633.00
Lawrence Mitchell	Blue Mountain Community College	Mathematics	19,389.00
B. F. Emery	Portland Community College	Public Safety	23,488.00
John Knutson	Portland Community College	Mathematics/Physical Science	10,000.00
Ron Taylor	Southern Oregon College	Psychology	15,453.80
John McCollum	Southern Oregon College	Education and Psychology	23,120.30
Bernhard Binder	Southern Oregon College	Chemistry	28,260.00
J. Morris Johnson	Oregon College of Education	Science and Mathematics	4,132.82
Michael Inoue	Oregon State University	Industrial Engineering	10,966.00
Larry Heath	Oregon State University	Industrial Education	41,313.00
Ronald Winters	Oregon State University	Pharmacology	3,727.00
Carvel Wood	Oregon State University	Education	15,260.00
Gerald Becker	Oregon State University	Education	6,632.00
Walter Lusetti	Oregon State University	Modern Languages	12,127.00
Wendell Slabaugh	Oregon State University	Chemistry	12,000.00
Robert Filmer	Oregon State University	Civil Engineering	6,000.00
Berkley Chappell	Oregon State University	Art	7,917.96
Waldo McNeir	University of Oregon	English	5,905.00
Peter VanDusen	Eastern Oregon College	Geography	3,028.46
S. Conrade Head	Eastern Oregon College	Biology	4,783.00
John Hammond	Portland State University	Philology	6,646.00
Julius Wilkerson	Portland State University	Operation PLUS	17,490.00
Jack Foster	Mt. Hood Community College	Science-Mathematics	3,386.00
Irene Place	Portland State University	Business Administration	4,394.00
Peter Simpson	Lane Community College	Social Science	10,804.00
Mary Fiorentino	Lane Community College	Nursing	6,748.00
Howard Dull	Lane Community College	Mechanics	14,957.00
Gerald Rasmussen	Lane Community College	Social Science	29,992.00

**Total**

**\$408,480.54**