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[No information provided in this document for this section.]
The Area of the Basic Agenda Priorities -- is under Faculty/Staff Diversity and Quality and proposes to "Maintain and improve the quality of instruction to promote excellence in the classroom, in both teaching and learning."

The System Wide Need Will Be Diminished -- by the process of evaluation and dissemination. Through the process of implementation, lessons will be learned about upgrading faculty and staff skill levels in educational instructional technologies. These lessons will be compiled and disseminated by presentations and electronic networking as discussed elsewhere in this application.
The immediate purpose of this grant is to provide the science faculty and staff at Modesto Junior College the opportunity to investigate and implement computer assisted instruction in the sciences. The ultimate purpose is improve the quality and productivity of science instruction and make the result available to the science faculty of other community colleges.

The educational program being addressed is "improvement of the quality of instruction to promote excellence on the classroom, in both teaching and learning." The Board of Governors Basic Agenda priority to be addressed relates to the implementation of "c. Educational Quality: Implementing faculty and staff development to improve the skills of college personnel," which includes computer and instructional technology proficiency programs. This is concurrent with Section 87153 of AB1725, because the bill authorizes uses of funds for "retraining to meet changing institutional needs" as well as "computer and technological proficiency programs." Further, Recommendation 2 of The California Master Plan for Educational Technology (AB 1470) call for "equity of access to sustained and ongoing professional development and technical support for every information technology user in the teaching/learning process."
Recent advances in computer technology offer enormous potential to improve the teaching of science. Across the nation there are lighthouse examples of science related computer software/hardware which presents scientific information in an individualized, self paced mode, software that is able to demonstrate scientific principles and model scientific phenomena; software that "interacts" with the learner and presents information, allows for questions, tests the learner and transmits the student's progress to the instructor. While this technology is not a substitute for lecture and discussion classroom activities, it is proving to be of significant assistance. In some cases instruction that would traditionally have to take place in a laboratory is able to be simulated using computer technology. This is true for biology, anatomy, astronomy, chemistry, physics, and the earth sciences.

At a time when higher education is struggling with restricted budgets, any technology that offers the potential of increasing productivity, holding student interest and enhancing student learning should be thoroughly explored. However, a major obstacle to an institution such as MJC in adopting this technology is the lack of time and resources to organize the science faculty and identify, review and test the computer software and hardware that is available.

This is the opportune moment at Modesto Junior College for the Science faculty to explore the possibilities in computer technology for enhancing instruction. The Science building at Modesto Junior College is currently undergoing a major renovation. Part of the completed facility will be a classroom for computer assisted instruction. Currently, there are no resources to assist the science faculty in reviewing their needs in a systematic manner, or to research available technology and review and test it and develop a plan for the new facility.

The Stanislaus County area is undergoing several phenomena that also affect Modesto Junior College's ability to provide quality science education. The concerns are:

1.) Modesto is the sixteenth (16th) fastest growing city in the United States. This is because Modesto is now perceived as the bedroom community for the Livermore Valley and "Silicon Valley" businesses.
2.) Stanislaus County has suffered from the states highest unemployment rate this last year and has ranked among the top three for the last few years.

3.) The percentage of Hispanic students is expected to double on campus in the next five years (20% to 40%). That group is currently under represented in science classes currently.

4.) The state educational budget crisis is continues this year, which may limit the colleges ability to expand staff development programs. Identification of the Problem Many campuses such as Modesto Junior College are going through constant evolution of physical facilities. The Science Building on our campus is undergoing a major remodel, and the college is planning such an evolutionary move by identifying one of the new rooms as a science computer room. During this time, it is logical to integrate new instructional technology into the web of the learning environment. This is because during the state educational funding crisis, we have a unique situation. We have funds in the building remodel budget to purchase computers for the science computer room in the new annex.

Deciding on the computer platform to use is an important part of the computerization process. The more users involved in the testing and evaluation of the machines, the more likely the resulting system will meet the majority of their needs. Having a variety of computers on the campus for an extended period of time allows for this extended testing and evaluation. Description of Solution Modesto Junior College is looking at using this opportunity by proposing a pilot project to demonstrate the process of upgrading faculty instructional technology skills (with emphasis on science instruction) and sharing the process with other institutions.

A structured approach to computer training would give the trainees' assurances that if they became involved in the program, there will be a variety of sources of help to them. Project staff is looking to offer a blend of formal workshops, drop-in tutoring at designated times and one-on-one assistance. Some of these services will be general and others will be specific to the sciences. Because the newer technologies are so dynamic, we will be depending on
outside expertise for a majority of the intermediate and advanced instruction.

The minimum result will be a measured improvement in the quality of student handouts, the development of a telecommunication link with peers on campus and statewide, and the possible integration of multimedia instruction into the curriculum.
The target population will include the faculty, staff and administrators identified by surveys who need increased proficiency in computers. Steps will be taken to make extra spaces in classes and workshops available to other members of the WC staff to maximize utilization.

Why this Population Needs These Services.

Because college faculty and staffs have varying degrees of computer proficiency, most will agree that they have little practical knowledge of the types of communication networks and multimedia resources found on many of the four year institutions in this state. They do have a sense of excitement about the educational possibilities when they can return to the remodeled facilities next year, but many will lack the skills necessary to optimize the use of the new facilities.

Short and Long Term Impacts

There will be three levels of instruction and service. The first level is to introduce faculty and staff to the world of computer aided instruction. The second level will concern itself with networking of faculty and staff. The third level will address the multimedia arena. The campus committees mentioned above will be involved in the design of the topic areas.
1. Survey of Needs - To identify the educational computer needs of all faculty, administration and staff within one school month of receipt of the allocation letter and develop a list of workshops to be conducted (Evaluation: An evaluation form will be sent to staff, results will be gathered and the results will be compiled.)

2. Evaluate Current Technology - To identify the major computer platforms available to higher education and evaluate them by allowing future faculty, staff and administrators hands on evaluation. This allows instructors an opportunity to test software on the various platforms. (Evaluation: An evaluation form will be sent to staff, results will be gathered and the results will be compiled.)

3. Conduct Staff Workshops - To have monthly workshops on a variety of educational technology topics from introductory to advanced and have science faculty, staff and administration attend a minimum number of hours of computer workshops or tutorial sessions by the end of 12 months that will be offered by MJC sponsored instructors and off campus conferences. (Evaluation: A tally of attendance of participants collected from instructors by project manager.)

4. Create a Network of Advanced Technology users - To work with faculty in the science area to provide instruction on telecommunications, simulations and multimedia technology and how technology can be incorporated in their curricula. To establish a telecommunications network that would allow the science staff to communicate between each other, with the students, with the rest of the college and with the academic world. (Evaluation: Documents will be presented to show increased use of the various network systems.)
This project will be co-directed by Bill Wilson, Business/Science Instructor and Jim Montalbano, Director of Academic computing. Bill Wilson will provide direction in Science pedagogy of computer assisted instruction and Jim Montalbano will coordinate the networking component.

1. To survey the educational computer needs of all faculty, administration and staff within one school month of receipt of the allocation letter.
   1.1 Form a committee to provide direction for the survey design.

   1.2 Send a survey regarding the needs and interests of the faculty and staff with a dear deadline for responses.

   1.3 Coordinate project promotion effort with the Teaching Resource Center and the Campus Flex Committee.

2. To identify the major computer platforms available to higher education and evaluate them by allowing future faculty, staff and administrators hands on evaluation. This allows instructors an opportunity to test software on the various platforms.
   2.1 Conduct a survey of the computer platforms available for science instruction.

   2.2 Acquire machines for dose evaluation.

   2.3 Allow interested faculty access to the computers for evaluation and testing.

   2.4 Survey faculty for results of tests and evaluations.

   2.5 Project director will compile results.

3. To have monthly workshops on a variety of educational technology topics from introductory to advanced and have science faculty, staff and administration attend a minimum number of hours of computer workshops or tutorial sessions by the end of 12 months which will be offered by MJC sponsored instructors and off campus conferences.
   3.1 Coordinate workshop instruction with outside experts in the various fields.

   3.2 Coordinate the drop-in instruction with the Teaching Resource Center by accommodating for additional hours.
3.3 Collaborate with NC5 (Northern California Community College Computer Consortium) to formally incorporate scientific educational technology as a separate tracking their conference.

3.4 Promote, arrange transportation and room and board for the Fall and Spring NC5 conferences.

3.5 Create an opportunity through InfoNet E-mail services to link all participants as a SIG Group.

4. To establish a telecommunications network that would allow the science staff to communicate between each other, with the students, with the rest of the campus and with the academic world.
   4.1 Introduce InfoNet to Faculty.

   4.2 Introduce LAN fundamentals to the staff.

   4.3 Do a workshop on INTERNET

   4.4 Produce a long range plan for networking the science building.
Impact of the Project on Objectives  The expected outcome will be that at least 30 Modesto Junior College Faculty, staff and administrators will be able to participate in various levels of educational technology training. The survey of needs and interests will provide the direction for a training program designed to provide the maximum computer growth for each participant.

C. Potential for Continued Support  The survey of interests will also be used as a guide in determining the types of computer software and platforms that should be evaluated. The systems will be acquired and system of evaluation and testing will be design to allow faculty and staff maximum accessibility the equipment. The results will be integrated into the later training sessions. Little funding is expected to needed to further assimilate the project into the institution.

D. Potential for Adaptation To Other Institutions or Programs Since the results of the project are easily available to other institutions, it is easily portable and adaptable. By sharing the results, the project will facilitate ease of planning for other colleges in similar situations.
A final report will provide evidence of the strengths and weaknesses of the program. This will provide the information for further training programs that will be needed for other parts of the college as well as other colleges. To produce a useful and effective evaluation presentation, the following activities are planned.

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<th>Measures</th>
<th>Outcome</th>
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<td>Oct.</td>
<td>1. Survey Staff - An evaluation form inquiring about topic, software, and platform interest will be sent to staff, results will be gathered and the results will be compiled.</td>
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<td>Oct-Nov and Apr</td>
<td>2. Identify Software and Platforms - An evaluation form win be sent to staff soliciting comments about platforms and software that they prefer after their hands-on study. Results will be gathered and the results will be compiled.</td>
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<td>Apr.</td>
<td>3. Classes and Workshops - A tally of attendance of participants collected from instructors by project manager.</td>
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<tr>
<td>Apr.</td>
<td>4. Create a Network of Advanced Technology users. Documents will use of the various network systems. The InfoNet E-mail system can monitors network activity.</td>
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Dissemination Plan

What is To Be Disseminated

The evaluation plan leads directly into the development of a Final Report. The evaluation report will be developed to include the following components:

The original survey of science faculty, staff and administrators soliciting topics,

Software and platforms of interest.

An evaluation of those interests and a methodology for planning the instruction to meet the need.

Explanation of the process of acquiring and evaluating the platforms and software that were identified by the survey.

A evaluation design arrived upon by the participants.

The results of that evaluation.

A listing of the topics for the workshops, the instructors and the response.

A reading list of relevant literature.

A narrative on how to network a building and then how to connect that building to the ever expanding networks of global academia.

The presentation will be developed is two forms, a written document and multimedia presentation.

Target Population

The target population for the report will be other interested faculty on campus, the district Board and statewide groups interested in the dissemination of educational technology in science.

Methods used for Dissemination

The report will be presented to district groups such as the district Board, the faculty senate, the Teacher's Resource Center, a FLEX workshop and other interested campus groups. It will also be presented as a workshop to the Northern California Community College Computer Consortium (NC5). Finally, the written report will be presented to E.R.I.C. to allowing national distribution of the program results.
Dissemination will start in the late Spring of 1994 and continue into the Fall and end with the presentation at the Fall Meeting of NC5 in late October.

Evaluation methods of the dissemination: A post survey will be sent within one month of dissemination to all groups to which the report was disseminated, to assess the value of the project. Results will be compiled and submitted with the Final Report to the Chancellor's Office. The expected increase in faculty and staff's technology skills and the project's replicability at other institutions are significant features which should indicate its success.
[No information provided in this document for this section.]