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For three consecutive years, Mt. San Jacinto College has had the highest growth rate of all community colleges in California. This growth has been the result of explosive increases in population in western Riverside county. In addition, the opening of the college's Menifee Valley Center in 1990 opened-up college services to a large, previously unserved population living along Interstate Highways 15 and 215.

The college increased from 1,750 FTES and ± 3,000 credit students in 1988, to 4,050 FTES and ± 7,000 credit students in 1991-92. With this phenomenal growth has come a greatly increased number of students in need of basic skills instruction, developmental education, and general remediation.
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Specific Educational Program Being Addressed

[No information provided in this document for this section.]
During the Fall 1992 semester, the San Jacinto campus enrolled 4,442 students. At the same time, 1,027 students were enrolled in basic skills courses in reading, mathematics, and/or writing. In addition, 62 students were receiving assistance in the Learning Skills program for learning disabilities. At the same time, the Learning Skills program had an extensive waiting list. The increased population of students requiring this type of instruction presents two problems: 1) providing sufficient staff time to serve student needs; 2) providing the best possible teaching/learning environment to ensure progress by students in these programs.

Although the District has submitted a new Learning Assistance Center project for State funding, that facility cannot be ready for occupancy in less than four years. Availability of qualified staff is limited, since rapid increase in enrollment has not been accompanied with a commensurate increase in funding. The district continues to be ± 30% over cap for the third consecutive year. In the meantime, hundreds of students are in need of basic skills and remedial instruction.

SOLUTION

Review of the literature in educational research indicates that these students are better able to build the skills necessary to achieve their goals through an interactive, computer-aided curriculum. For example, Martin Chesin, in a recent article in The Computer-Assisted Composition Journal stated that, in the area of English, teaching in a computer environment assists in achieving the overall purpose of the course. Students gain or reinforce computer literacy, and they learn and use collaborative skills useful both in education and in the work place. Computers allow immediate feedback and encourage creativity. These same benefits were cited by the National Council of Teachers of Mathematics in the new math standards established in 1989, which call for mathematics to be analytical, problem-solving and creativity based, according to Isabelle Bruder in her article in the May-June 1992 issue of Electronic Learning. The council stated that these objectives cannot be met without using technology.

Given the broad-based support for computer-assisted instruction across disciplines and across professional organizations, and given the District’s inability to hire sufficient additional staff to meet the rapidly expanding student demand without providing computer assistance, the solution proposed is the establishment of a computer assisted instruction lab which is organized specifically to serve
this needy population. This learning laboratory will be set-up to use commercial software, and to provide faculty with a simple, practical method for developing customized applications for the specific needs of their courses and students.

Through the establishment of this program, there will be an immediate improvement in quantity and quality of instructional services available to students in these areas. This program will also provide the long-term benefit of creating an annotated bibliography of available commercial software, provide for regular updates of this list, and provide faculty with the necessary skills to customize and design software applications which directly serve their curriculum and students.
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Population to be Served

[No information provided in this document for this section.]
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Objectives

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Three distinct areas of development have been identified in order to establish this learning laboratory: 1) establishment of the hardware component in an appropriate learning environment; 2) a systematic approach to the identification, review, and selection of appropriate instructional software to used; 3) creation of a staff development program to increase faculty involvement in the customization of software to meet the needs of students and the Mt. San Jacinto College curriculum.

Establishment of the center, Mt. San Jacinto College currently has a small computer lab area as a part of the Learning Center. However, there are only ten computers: five outdated Apple II's and five IBM clones which are used primarily for word-processing by students in transfer-level courses. Students are consistently turned away because computers are unavailable. Students with special learning needs have to fight for space on this small group of computers. In addition, there is a minimal amount of software available for the special needs students in basic skills and learning disabilities. For these students, the Macintosh line of computers and related software provides a more appropriate hardware and software environment to permit the student to focus on learning the instructional materials, rather than learning how to operate the computer. The District has identified the funds to purchase the required fifteen computers and related hardware.

The four steps involved in establishment of the center include: 1) design and prepare the space; 2) finalize equipment specifications and purchase equipment; 3) installation of hardware; 4) install initial software.

Since the system specifications have already been generally established, and since there is an existing space where the lab can be created, the focus of this first phase will be on finalizing the equipment specifications and getting the equipment purchased and installed. While the District has identified funds to cover costs of the hardware, it is not in the position to fund the software and development portions of the project. Therefore, purchase of the hardware would begin immediately upon notification of funding of the other elements of this project. This could easily be accomplished during the Summer of 1993.
Preliminary hardware specifications include: 15 Macintosh computers, 3 Apple CD 300 units, 1 Apple color scanner, 1 overhead computer projection panel, 3 ink-jet printers (1 of which is color), and required furniture.

Identification. review and selection of software. The second element of this project focuses on a comprehensive, cost-effective procedure for preview, evaluation and purchase of software to meet the needs of students. The current procedure, as is the case on many small campuses with limited faculty and staff, is based on quick preview by one individual who may not even have time to test the software with students before recommending purchase. This leads to the purchase of inefficient and ineffective software, needless expense and, perhaps most counter-productive, the under-utilization of the center.

This phase of the project can begin concurrently with the hardware phase, and will be ongoing throughout the project. Under the leadership of the project director, a procedure for review, testing, and selection of software will be developed. The process will include a review of professional and commercial literature to determine the extent of what is available. There will also be a review of the current curriculum to determine where commercially available software might meet the needs of existing curriculum. Consultation will take place with faculty from related disciplines to ensure the best possible match of software to course content and students.

The project director will order appropriate preview copies of selected software packages and make them available for testing by faculty and students. Each package tested will be evaluated on its relationship to existing curriculum, ease of use, ease of adaptability, general effectiveness and efficiency, and its cost-effectiveness as a part of the overall development of the laboratory. These tests will take place during semester-long trials both Fall and Spring semester.

An annotated bibliography will be developed, listing all software reviewed. It will also indicate which packages have been tested, and the results of those tests. After the pilot year, the process will continue under the direction of the Learning Center, with an annual update on all software reviewed and tested. Those packages which are tested and found to meet student/curricular needs will be recommended for purchase and installation on the center's computers.
Customization of software development training. Because each campus has a unique population of both students and faculty, the need for customization and development of student/curriculum specific software is becoming apparent. Yet faculty, particularly outside of business and computer sciences disciplines, are leery of educational technology. Because faculty have their adopted texts and related materials, they need the software to coincide with these materials, and to augment the learning experience for those students who need the additional assistance.

Through the use of the Macintosh computer system and its related "hypercard" technology, faculty will be trained through staff development activities to customize their applications and to design the needed software materials to augment the texts and other materials already in place. This "user-friendly" environment will enhance the ability of faculty and staff to serve students. While this technology will not replace the need for additional staff over time, it does permit the District to bring better service to students almost immediately.

Staff development will consist of two phases. The first, beginning in Fall 1993, is the development of a program to be offered as a part of the current faculty/staff "flex" activities offered each January. This program will be designed to familiarize faculty with the hardware and software being made available. This program will also allow the project director to encourage individuals and teams to attend additional sessions on the learning of the Hypertalk programming language. Since this programming language is easy and commonly available to all Macintosh users, it has already received initial acceptance by faculty as a direction in which they wish to move.

Two to four additional sessions will be presented throughout the year to assist faculty to develop the skills necessary to customize and design software for the specific needs of their students.

PROJECT MANAGEMENT

The project will be directed by a Loretta Ross, a full-time instructor in the English Department. The project director will take primary responsibility for organizing all activities, and will coordinate all three phases of the project. The Vice President of Instruction will provide administrative supervision, and has expressed a keen interest in following this project and providing whatever help that can be made available.

A part-time hourly classified staff member will be hired to handle the
large amount of paper generated by a project of this type. There will be hundreds of catalogs, journal articles, information and specification sheets, and other materials which will need to be coordinated, cataloged, and maintained. In addition, this staff member will handle mechanical details of laboratory supervision, recording results from field tests of software, and handle the general needs of the lab. This new staff member will be in addition to the staff which already provides service to the Learning Center. During the grant period, the individual will only perform duties related to this pilot project.

The project director will work with Division Directors, faculty, the Learning Center coordinator, and the Learning Disabilities instructor to ensure that the processes and their results are communicated clearly to all concerned, and to compile the findings of the final project evaluation in order to institutionalize the program as a regular part of the college instructional services program the year following this project.
The three primary objectives of this project are to develop the physical lab space, develop a process for selecting and acquiring appropriate software and to acquire that software, and to train faculty with the skills necessary to customize and design software applications. This project will support the start-up costs to accomplish all of these objectives. Once the project has been completed, the District will fold the entire process into the existing Learning Center programs, and will support the CIA activity as a regular part of the instructional program.
The project has three clearly identifiable results which will be evaluated at the mid-point in the project, and at the end of the project. Evaluation will be conducted by the project director, who will gather evaluation data from faculty, staff, students, and administrators involved in the project.

Establishment of the physical space and equipment will be achieved by the beginning of Fall 1993. Success will be measured by the presence of the lab and its ability to serve faculty and students throughout the year.

The process for review and testing of software will be in place for the beginning of Fall 1993 and will be evaluated and modified, if necessary, for Spring 1993. Faculty and staff will participate in evaluating the success of the process throughout the year. At the end of the project, a final, summative evaluation will provide input to describe the level of success experienced based upon assessed quality of the lab and its software, as well as the successful participation of students in the lab activities. In addition, the annotated bibliography will be produced by the end of the project, and this document will serve as demonstration of the review and selection process.

Each of the staff development activities which result from the third portion of the project will be evaluated by all participants, as well as by the project director. A final summative evaluation will be written by the project director, with input from all involved parties, and presented at the end of the project. The evaluation will be based upon the success in establishing the center, the success of the process for selecting software, and the responses of faculty who have been trained in the software customization and design process.
The annotated bibliography will be available for distribution throughout the State. In addition, the collegial process for identification, review, and selection of instructional software will be available in a format which can be replicated on any campus. The project director will be available to any college as a resource in developing similar programs at other institutions.

In addition, the staff development materials for training faculty on easy ways to customize and design software applications will be formatted for use at any college. Staff will also be made available to do initial training at appropriate sites.

Every institution has a need to find better and more economical ways to serve the large number of students who are not ready to enroll in a full program of college level courses because of basic skills, ESL deficiencies and learning disabilities. However, smaller institutions are hard-pressed to provide the necessary staff time and start-up support for development of a computer assisted learning center. The results of this project will provide a great deal of support to colleges trying to establish these centers, and should save some of these campuses a great deal of staff time in developing the processes and resource lists necessary to start these centers.
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Budget Narrative

[No information provided in this document for this section.]