CALIFORNIA COMMUNITY COLLEGES
AND
NAPA VALLEY
COMMUNITY COLLEGE DISTRICT

#92-0016
The Cross/Angelo Assessment Model - Expansion and Institutionalization

<table>
<thead>
<tr>
<th>FUNDING CATEGORY &amp; AWARD</th>
<th>ELIGIBLE PROGRAM</th>
<th>PROJECT CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grant = $96,213</td>
<td>B --- Improving Teaching Ability</td>
<td>Classroom Research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT PRODUCT</th>
<th>PROJECT TOPIC #1</th>
<th>PROJECT TOPIC #2</th>
<th>ACADEMIC SUBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff Develop</td>
<td>Training</td>
<td>Inter-Disciplinary</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT DIRECTOR</th>
<th>PROJECT SUPERVISOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anita Catlin, Faculty Staff Development Chair</td>
<td>Diane Carey, Vice President Instruction</td>
</tr>
</tbody>
</table>

This proposal is a grant request. A consortium of California Community Colleges, under the lead of Napa Valley College, propose a project to expand the Cross/Angelo Classroom Based Research project to at least 24 additional colleges in California. The project, which over the past seven years has been developed and tested at more than 35 colleges, has been touted as one of the greatest methods available to improve the teaching and learning process.

The project will involve 12 base colleges, mentor 24 additional colleges, train more that 1,200 faculty in classroom assessment techniques, and will result in better instruction for as many as 30,000 community college students throughout California. The project includes a research component and will focus on improving instruction in math, science, and technical fields.

The project addresses the primary educational programs and services of the Fund for Instructional Improvement and the Board of Governors Basic Agenda. Meeting the need for higher enrollments in math and science and the need for methods to support the success of women and minorities are central to the purpose of the project.

This is a consortium project.
The Cross/Angelo Assessment Model --- Expansion and Institutionalism

A consortium of California Community Colleges, under the lead of Napa Valley College, propose a project to expand the Cross/Angelo Classroom Based Research project to at least 24 additional colleges in California. The project, which over the past seven years has been developed and tested at more than 35 colleges, has been touted as one of the greatest methods available to improve the teaching and learning process.

The project will involve 12 base colleges, mentor 24 additional colleges, train more than 1,200 faculty in classroom assessment techniques, and will result in better instruction for as many as 30,000 community college students throughout California. The project includes a research component and will focus on improving instruction in math, science, and technical fields.

The project addresses the primary educational programs and services of the Fund for Instructional Improvement and the Board of Governors Basic Agenda. Meeting the need for higher enrollments in math and science and the need for methods that support the success of women and minorities are central to the purpose of the project.

The project design includes a two year implementation period and budget. Next year, additional funds will be requested to support the continuation of the project. Twelve of the 35 colleges that have been involved in the project will assist in training faculty at 24 new colleges selected to participate. Joint training sessions and workshops, in addition to single college group activities, have been developed to train and support project faculty. A research component will validate the success of the technique in increasing student success and improving the teaching/learning process.

A full time director will work with a planning team to coordinate the statewide project. A researcher will work with project staff to design and implement research activities and support project evaluation efforts.

Project results will be disseminated widely through a comprehensive effort that includes workshop presentations, reports, and summaries. In addition, all project workshops will be open to faculty from throughout each and every one of the 107 colleges, whether or not their college is an "official participant".
The total request for 1992-93 is $226,330.00. A second year budget estimate, for 1993-94, is also included. 7
INTRODUCTION
In 1989, the Federal Government, under the U.S. Department of Education Fund for Improvement of Postsecondary Education (FIPSE), supported a three year grant to institute the Cross/Angelo Classroom Based Research project in thirty five community colleges in California. That grant has proven very successful in its mission. Last year, the California Community Colleges Fund for Instructional Improvement, under the supervision of Nancy Glock, funded efforts to further disseminate the training in seventeen California Community Colleges.

The Cross/Angelo model of Classroom Assessment Techniques (CAT) is a staff development training program that teaches instructors how to conduct classes in partnership with their students. An ongoing dialogue of ungraded, anonymous, written feedback takes place in every class session. Students help shape the course, let the instructors know what is or is not being understood, and create a dynamic and synergistic environment between the teaching and testing interval.

The results of these training projects have had major implications for students and teachers in the state of California. The model, in which instructors are taught how to be in close and frequent communication with their students, has proven to be a loved and valued system by all who have participated. Students state that for the first time they are being heard, and, in the words of Patricia Cross, "education for all is becoming education for each." The most amazing part of the campus training, a serendipitous finding, is that instructors from various disciplines are coming together for the first time to talk about teaching!! The camaraderie and dedication of instructors from throughout the state have resulted in a community of people dedicated to better teaching. These groups have a powerful message to share with their colleagues!! Dr. Diane Carey, Vice-President of Napa Valley College, the sponsoring school for the FII grant, has stated that in her twenty years of educational experience, the classroom based research project is the most significant program to involve faculty in the discussion of how to improve teaching and learning that she has ever encountered.
Where do we go from here? We now have three major goals.

1. The first goal is simple—to continue to ride the crest of enthusiasm for teaching by (a) making the basic classroom assessment training available to the other 70 colleges in the California community college system, and by (b) expanding the training being offered to faculty in the twelve base colleges. Leadership development and training programs will be offered to faculty 24 additional colleges would be held. During the training, data will be collected on how to best institutionalize this form of staff development on a college campus, with the goal of having the classroom assessment program be totally college supported at the end of the two years.

2. The second objective is to target the training to a specific group of instructors, those in math, science and technology fields. This goal takes direction from the 1989 Report on the National Science Foundation Disciplinary Workshops in Undergraduate Education (National Science Foundation, 1989) which directs colleges to "create programs aimed at retention of underrepresented students in science, engineering, and mathematics courses and curriculum." A new study released in February 1992 by the Educational Foundation of the American Association of University Women is called "How Schools Shortchange Girls " (Time, 2-24-92) and addresses the critical lack of women being trained in college for professions in the math and science fields. A recent report released by the American Association for the Advancement of Science (Science News, Vol.140,12-2-91) is very concerned with eliminating "the barriers beginning in grade school- that can derail women, minorities, and the physically disabled from educational tracks leading to degrees in science, math and engineering". The grant will instruct science, math, technology and allied health instructors how to help such students by using the Classroom Assessment Model. The project will also examine the influence of this training on student outcome, with the ultimate goal to prepare underrepresented students for transfer and employment.

3. The grant will develop models and instruments to use to collect data and show the relationship between the use of classroom based assessment and student success. The research questions will show scientifically what we believe intuitively, that this method of teaching increases student success and instructor satisfaction through its use.

It is an ambitious project, but with sufficient funding, leadership and support from the FII staff in the Chancellor's Office, we believe the project can be accomplished.

THE SPECIFIC PROGRAMS AND SERVICES BEING ADDRESSED PER FII GOALS AND BOG AGENDA ARE:

1.a Offering Non-traditional Instruction
1.b Improving teaching abilities of faculty
1.c Meeting needs of educationally disadvantaged students
1.d Meeting needs of new clientele
1.e  Improving traditional instruction  
1.f  Improving faculty and staff performance

2.a.1. Improving Transfer education access  
2.a.3. Assisting ESL students and Basic Skills students to succeed  
2.b.1. Preparing students for employment  
2.b.3. Helping underrepresented students to succeed in Voc Education  
2.c.3. Assisting with retention and transfer of underrepresented students  
2.d.3. Improving the quality of Human Resources

This project is a continuation of a proven method of improving teaching and learning. By changing the classroom environment to one of dialogue and partnership, as opposed to the traditional lecture format with testing as the only evaluative tool, we know we can improve conditions for students and provide new challenges for instructors.

Faculty at twelve community colleges which are presently using the Cross/Angelo model will spend two more years completing this training on their campus. By the end of the proposed two year grant, every faculty member will have had the opportunity to have their teaching improved. The science, math, and technology instructors will be targeted on each campus, and the goal will be to help women and minority students increase their successes in these fields.

A training schedule will be developed in advance and disseminated throughout the state. It will be offered that two faculty from any community college could attend any nearby school's training. The project will support 24 new schools who agreed to train leaders and begin teaching the Cross/Angelo model. One of the two new trainers must be an instructor from science, math, technology or allied health.

By the end of the two years, the participating colleges will have institutionalized this training model on their campuses, to be continued without grant support.

A research component will take place on designated campuses to collect data to show that this project improves learning.
2. Specific Problems Being Addressed

WHAT SPECIFIC PROBLEMS ARE BEING ADDRESSED IN THE PROPOSAL?

A. How can teachers who were trained as experts in their specific fields of inquiry become experts in the field of community college instruction? By continuing to offer classroom based research on campuses currently involved, and to the other 70 colleges, the Chancellor’s Office FII funds can ensure that teaching skills will be enhanced. Thirty-six colleges will have funded programs with active, on going training.

B. How can the faculty of open door community colleges be better prepared in the 21st century to meet the needs of diverse students from groups previously unserved in community college districts? How can we attempt to impact the fields of science, math and technology with student success from women and minorities? The classroom assessment model teaches instructors to listen to their students and then adjust content to better meet student needs. Instructors who have used the Cross/Angelo model have written in their anecdotes that minority and ESL groups respond to this anonymous feedback teaching method more successfully than to the traditional lecture method.

C. How can instructors at today’s community college be encouraged to meet the challenges ahead and be enthusiastic about their role in shaping California history? By joining together to talk about teaching, the problems, the heartaches, minority student success, gender issues, and evaluation methods, a shared vision can be formed as has been found by the colleges presently participating in the model. This sense of community is an explosive tool to be nurtured on any college campus. The frequent meetings of the 17 schools currently involved in the project has resulted in a close network throughout the state of people concerned about educational excellence. Support by the Chancellor’s office in creating a forum for thoughtful discussion can only improve the working lives of both teachers and students in the system. Instructors in the 12 colleges would be taught to communicate by using Infonet, the computer system that currently links the 107 community colleges.

D. Can we prove, by carefully collected data, that the classroom assessment model works to improve student learning? Can we attempt to show what is necessary and essential to institutionalize the Cross/Angelo model on a college campus? Can we target women and minority students in math, science, and technology fields to help increase their entrance into the job market?

This grant would provide the funding to establish a major research project to answer the above questions. It will allow for a specific research plan to be developed, piloted, implemented and conclusions drawn. During the first year of the grant, the data collection models will be developed and piloted, and during the second year, the actual data collection will take place in classrooms at selected sites statewide. Various
methodology has been tried to collect data on the classroom assessment model. Nancy Stetson, at College of Marin, John Kangas at San Jose City College, Pat Cross and Tom Angelo have worked on this issue in the past, and will be contacted to have input on instrument development and content validity. Dr. Eve Lohnas has been identified to direct the research component of the grant.
3. Population To Be Served

WHO ARE THE POPULATIONS TO BE SERVED?

There are three groups that will benefit from this project:

A. THE COMMUNITY COLLEGE SYSTEM:
The 107 colleges will be invited to participate in upgrading instructor skills in the classroom, and to share in the potential for an improved environment for instructors who are excited about teaching.

B. INSTRUCTORS:
An estimated 1200 will be affected if the 12 original colleges train 60 instructors each and the new colleges (24 funded) will train 30 instructors each. Both the newest faculty members, just becoming acclimated to campus life, and the once jaded instructors, who went from counting days until retirement to becoming co-leaders in the this training project, agree that this project works and that it is an excellent investment in staff development.

C. STUDENTS:
We have always heard from our bright and articulate students. They have never been shy in telling us how we are doing. But this project allows us to hear from every student-- the shy ones, the ones who speak with an accent, those with speech disabilities, those who wish their comments to be anonymous, and those in ESL classes who are able to respond to their instructors using this model by designating a plus sign or minus sign as they have no writing skills. The project will target training students in math, science and technology to tell their instructors what they think in order to help them learn and succeed. If each of the 1200 instructors in the project reaches 40 students (a conservative estimate), the potential number of students served is 48,000.
4. Objectives

PROPOSAL OBJECTIVES

The proposed project is based on a two year project cycle. The consortium is aware that reapplication for 1993/1994 funds will be necessary. Performance goals with tasks, completion dates and benchmarks are included here:

Project objectives are as follows:

1. Train 1400 faculty statewide at a minimum of 36 colleges in the Cross/Angelo classroom assessment techniques by the end of the two year cycle in 1994.

2. Identify factors necessary to institutionalize the staff development program of classroom assessment on a college campus in 1993. Disseminate these factors for college adoption by the 1994 school year.

3. Train at least 24 math, science and technology instructors for participation and leadership roles.

4. Expose up to 48,000 students, including underrepresented groups of students in the fields of science, math and technology to improve student success, improve transfer rates, and increase employment in fields of science, technology and allied health. Institutionalization of the project will result in continued assistance to women and minority students in science and technology.

5. By June, 1994, using both qualitative and quantitative data, the research study will be completed which will describe and analyze the outcomes of classroom assessment on teaching and learning. Hypotheses will be developed to answer questions of institutionalization, of student success, of the effectiveness of using the Cross/Angelo model to increase successful preparation for employment by women and minorities in science, math and technology.
WORK PLAN STATEMENT --- objectives, activity dates, budget amounts

The attached work statement provides a comprehensive summary of the proposed objectives, activities, dates, staff and budget amounts.

For the past three years, faculty from ten Northern California schools have worked closely together to master and teach the Cross/Angelo model. This network of instructors have done an outstanding job of presenting the model on their own campuses, mentoring other colleges, presenting at conferences regionally and sharing their knowledge nationally. This grant application is a product of their efforts to add further dissemination, institutionalization, and scientific research to their roles as faculty leaders.

The faculty leaders selected at the twelve base schools will be those with proven expertise in training faculty in the Cross/Angelo model. They have committed to carrying out the institutionalization of this project at their colleges when the research is completed. Each has shown leadership and dedication in the field of staff development. On their own campuses, they are held to be "exemplary teachers".

Project Director Anita Catlin serves as Chair of Faculty Staff Development at Napa Valley College. She has chaired numerous panels and workshops on the Cross/Angelo model. She has conducted and published several pieces of nursing and educational research. Her latest work includes a study of the success of underrepresented groups in nursing.

Dr. Eve Keleman-Lohnas, research scientist and statistician, has been designated to carry out the research component of the grant. The researcher will develop models and instruments for data collection and analysis. Instructors will pilot the instruments and collect data for researcher analysis. Dr. Lohnas has recently spent three years directing the federal Classroom Assessment grant.

Dr. Diane Carey, Vice President of Instruction at Napa Valley College, will carry the administrative supervision of the project.

The Director of Planning and Resources at Napa Valley College, Judie Walter-Burke, will participate in the monitoring of activities.

Dr. Chuck Ely, Vice-President of Finance at Napa Valley College, will supervise the financial distribution of funds. His staff will be distributing funds to 36 colleges, three times a year for two years, for a total of 216 dispersions. His staff will oversee and audit grant activities.

Dr. Becky Failor, President of the Math/Science Network, has agreed to serve as a consultant to our project. The Math/Science Network, located in Oakland, California, was founded in 1974
to provide leadership for women and underrepresented groups to participate in science and mathematics. The network is best known for their Community College program, Expanding Your Horizons, which supports students to succeed in science, math and technology.

WORK PLAN NARRATIVE

Major plan activities that ensure that the project meets the needs of the targeted populations are described below, by objective, per semester: (How do goals serve targeted population?)

SEMESTER I

Objective 1 Twelve of the 35 colleges who have participated in the original LARC FIPSE or FII grant will be selected to receive support to continue CAT training for every faculty member on campus. These schools will be asked to provide 20% release time for the leaders to direct the project at their college.

Objective 2 These 12 schools will begin to identify the essential support variables needed to institutionalize the training on their campuses when the grant support concludes.

Objective 3 These 12 colleges will target their instructors in math, science, allied health and technology for training. This will take place during all four semesters of the proposed grant.

Objective 4 Students in science, math, technology and allied health courses will participate in giving feedback to their instructors and becoming partners with their instructors in the learning process.

Objective 5 The researcher will begin to develop models and instruments for the research project.

SEMESTER II

Objective 1 Each of these original schools will submit to the project director a schedule for the second semester training. As well as training faculty on their own campuses, these sessions will be opened to the other 95 colleges in the community college system. A statewide mailing will go out to announce the training of leaders from new colleges at the twelve original sites. "Faculty training faculty" will continue in the successful model of the previous projects. Twenty four new schools will be identified and funded to send two faculty leaders, one from the field of science, math, or technology. These new schools will make the commitment to provide continued support to Classroom Based Assessment training on their campuses. Schools will be asked to provide 20% release time for the new leaders to conduct the program.
Objective 2  The 12 continuing colleges will meet to analyze the variables that they identified as necessary to the institutionalization of the training on a campus. These variables will be listed and tested during the following year.

Objective 3&4  Instructors and students in science and technology will continue classroom assessments in their classes.

Objective 5  During the second semester, pilot tests of the research instruments will take place in the 12 original colleges. Reliability and validity will be established.

SEMESTER III
Objective 1  The 12 continuing colleges will train faculty at their campuses. The 24 new colleges will begin to train faculty with support, as needed, from the 12 original colleges.

Objective 2  The 12 continuing colleges will examine the compilation of support factors and prioritize which factors are essential to inclusion of this staff development model in the budget process. Leaders will meet with staff development officers and administrators to ask for inclusion of the identified factors in the next year’s budget.

Objective 3, 4  Instructors and students in science and technology will continue classroom assessments in their classes.

Objective 5  Selected sites from among the original colleges will begin to collect data using the refined data collection models and instruments developed by the researcher.

SEMESTER IV
Objective 1  All participating colleges will continue to train faculty.

Objectives 2, 3, 4 & 5  Data analysis will be run. Results will be examined, conclusions drawn and recommendations submitted. A final report will be prepared and presented to the State Chancellors Office. The report would answer the questions of institutionalization, of student success, of the effectiveness of using the Cross/Angelo model to increase successful preparation for employment by women and minorities in science, math and technology.
6. Expected Outcomes

EXPECTED OUTCOMES

A. Objectives

1. Sixty faculty members at each of the twelve base schools will be trained in the Cross/Angelo model. Thirty two faculty will be trained at each new participating school.

2. The twelve base schools will have built this staff development model into their college budgets and the projects will be completely self sufficient. Knowledge on how to institutionalize the Cross/Angelo model will be disseminated statewide.

3. Math, science, technology and allied health instructors will have participated in the project and have incorporated this method of instruction in their classrooms.

4. Students in the math, science and technology fields who normally may have difficulty with these subjects will now have the opportunity to directly influence their own learning. Students from underrepresented groups will have a chance to form a partnership with their instructors to ensure better outcomes.

   More minority students and women will be ready for transfer or entrance to the work force due to their success in school.

5. A research project will be completed to establish scientifically what has been known only intuitively, that the Cross/Angelo model works in improving student success.

B. Impact Statewide

This project has the potential to include every one of the 107 community colleges in California. Hundreds of instructors and thousands of students will benefit by increasing their dialogue on teaching and learning.

A network of faculty throughout the state are already committed to this improvement. The network will be strengthened by including of Infonet communication, and the addition of many new faculty leaders to the network.

C. Continued support After the Grant

One of the major goals of this grant is to develop a model to institutionalize this training in a cost effective manner that will allow a district to implement the training as an ongoing college event.
D. Adaptation to Other Colleges

A major goal of the grant is to continue to successfully mentor new campuses in the training and use of the classroom assessment model. All colleges in the system will be offered the training.

The need for this has clearly been seen when the Classroom Assessment Model was presented in November 1991 at the Community College League of California Conference. Administrators, trustees, and faculty attending gave a very clear and positive response to the model presenters—they wanted more! They asked for:

a. more colleges to be included in the training
b. training to be offered at locations statewide
c. instructions on how to institutionalize the project in a cost effective manner

This grant will respond to those other colleges and the final report will describe how to adopt the program as a cost effective way to increase instructor satisfaction and student success.
7. Evaluation Plan

EVALUATION PLAN

A. Program Evaluation

Evaluation will take place every semester to ascertain that the proposed work plans have been accomplished. The faculty leaders will meet at least quarterly to monitor progress.

The evaluation will identify any problems that have arisen and bring these problems to the attention of the school leaders and the project director. The FII Project Monitor will be consulted, if necessary, to resolve any major problems. Any problems will be worked out and moderated.

Successes will be identified. The project’s effectiveness will be measured by the numbers of faculty participating and by the numbers of students being reached, as well as how well the specific project objectives are reached.

The research report would answer the questions of institutionalization, of student success, of the effectiveness of using the Cross/Angelo model to increase successful preparation for employment by women and minorities in science, math and technology.

The Cross/Angelo training model will be institutionalized on 12 campuses and the plan of how to institutionalize will be disseminated statewide.

B. Research Evaluation

The first year of the grant will be developmental. The research hypotheses will concern three focuses, institutionalization, underrepresented group inclusion, and the relationship between the Cross/Angelo model and student success. Objectives will be listed with minimum standards and these standards will be reached. Methodology will be described. In the second year of the grant, methodology will be followed. Results will be statistically analyzed. Conclusions will be drawn and recommendations made.
8. Dissemination Plan

DISSEMINATION PLAN

The faculty leaders, project director, and researcher will continue to speak at conferences throughout the state and nation about the project. Presentations will be made at as many professional organizations as possible, with a special emphasis on presenting to math, science and technology groups.

Two final written products will be produced by this grant. The first is a document which will describe how a staff development project can be institutionalized on a college campus, and become a district supported rather than grant supported entity. The second document will be a research study which shows the effects of the Cross/Angelo classroom based assessment model throughout the community college system. The report will concentrating on the positive effects of the project, such as the support of underrepresented groups into math, science and technology fields of work or study.

These reports will be offered to community colleges throughout the state and the nation.

The final documents could be submitted to State and National publications. This would be done in June, 1994.

Dissemination would be deemed successful if the authors receive responses from other schools and states, that the model is begin implemented nationwide.
9. Budget Narrative

BUDGET
Two proposed budget detail pages are included to project costs for 1992 and 1993. The consortium is aware that a reapplication for support will be necessary at the end of 1993. The text will answer the following questions:

How clear and realistic is the budget?