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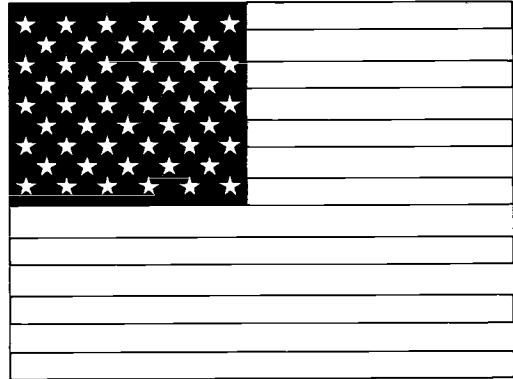
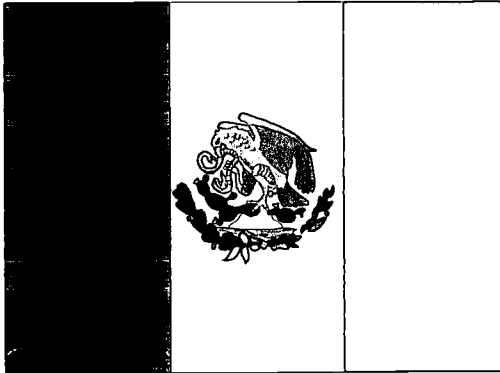
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ABSTRACT

Following an initial effort in 1994, the Educators Exchange Program 1996 (EEP-96) was the second project completed under a training and educational exchange agreement reached between California's San Diego Community College District (SDCCD) and the republic of Mexico. In EEP-96, the district provided a five-week technological training program to faculty at Centros de Capacitacion Tecnologica Industrial (CECATI), or vocational training centers, in Guanajuato, Mexico. As in similar exchange programs, the goals of EEP-96 included economic development, expanded training opportunities, and greater cultural understanding. EEP-96 was unique, however, in that regional training needs in Guanajuato were carefully assessed, SDCCD instructors taught in CECATI training sites and local industries to better understand local conditions, and a classroom approach was used to train more instructors. Of the 119 CECATI instructors participating in the seven EEP-96 courses, 60.5% were male and 15.7% had completed university degrees. Overall, 90% of the participants rated their course as excellent or good, while pre- and post-tests administered in four courses showed significant improvements. A brief description of a week-long exchange program held at SDCCD in spring 1997 is included, indicating that six courses were offered to 25 CECATI instructors and that evaluations were very positive. Appendixes provide the EEP-96 participant and instructor evaluation instruments, instructor responses, and a program budget for 1996-97. (BCY)

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# Educators Exchange Program 1996



## Program Evaluation Report

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**EDUCATORS EXCHANGE PROGRAM**

***EVALUATION REPORT***

**SDCCD**

**CECATI**

**FORD FOUNDATION**

**SDCCD Research and Planning Dept. June, 1997**

**William B. Armstrong, Director of Research**

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# Executive Summary

In November 1993, the San Diego Community College District (SDCCD) and the republic of Mexico formally entered into a training, technology, and educational exchange pact. The agreement was signed in Tijuana by Chancellor Augustine P. Gallego and governing board president Maria Nieto Senour for the SDCCD and by the Secretary of Public Education for the republic of Mexico, Ernesto Zedillo . This agreement, made in the spirit and in anticipation of the North American Free Trade Agreement (NAFTA) is intended to improve economic development and cultural exchange and understanding between the U.S. and Mexico. This agreement allows the SDCCD to enter into contract education to add the latest technology to Mexico's training programs, and conduct exchange compacts with any of the 200 Centros de Capacitacion Technologica Industrial (CECATI's) vocational training centers located throughout the republic of Mexico. The project completed under this agreement, the Educators Exchange Program (EEP), was described and evaluated in the Spring of 1995. The second project completed under this agreement, the Educators Exchange Program 1996 (EEP-96), is the subject of this second report.

This agreement represents the latest in a series of steps toward these goals to provide contract education and builds upon earlier efforts to improve bi-national cooperation and understanding while providing high quality, relevant training to Mexico by the SDCCD. The rewards from the NAFTA will be in large part due to small scale programs such as Educators Exchange Program. Programs such as the EEP between the SDCCD and CECATI's predate the NAFTA by several years. Mutual assistance agreements between the two institutions started in the late 1970's. A brief description of some of these earlier programs is provided later in this report.

The literature review suggested that the goals of the EEP were in many ways similar to the goals for other agreements forged between community colleges in the U.S. and counterparts in Mexico. As other programs summarized above, the EEP has

the goals of economic improvement, expanded training opportunities, greater cultural understanding, and trans-national cooperation. Also, many of the faculty exchange programs reviewed showed similar program objectives such as greater cultural understanding, internationalizing the curriculum, language improvement, knowledge of alternative educational delivery systems. These features and goals are found in practically all of the programs that were reviewed for this evaluation.

However the EEP had some features unique to itself. It was focused on a careful assessment of regional training needs of the local CECATI's in Guanajuato. The program sent instructors from the SDCCD to the CECATI training sites and private industries in Guanajuato to make the training more appropriate and the learning more transferable. This instructor-in-residence approach had the goal of making the SDCCD faculty more familiar with the conditions and challenges faced by their colleagues, and to make the instruction more directly relevant to the students. These students would then be better able to train others in the use of the existing equipment and facilities at their local CECATI's. This contextually-based training approach was found to be of greater value and was shown by the evaluation questionnaire to be highly relevant to the instructors receiving training.

Second, through the classroom approach, many more instructors could be trained on the uses of more modern equipment. At the same time, instructors returning to their local CECATI's could better inform administrators and CECATI officials of the latest advances in these technologies and request the latest equipment and software. This would serve to help keep the CECATI's more current and better meet the needs of an expanding and increasingly competitive industrial and economic market economy. These features distinguish the EEP from the other programs reviewed.

Prior to the most recent Ford-sponsored effort, SDCCD and CECATI training institutions in Mexico had developed a long tradition of partnership and cooperation. This tradition has been achieved since 1978 through a series of exchanges of

increasing scope and complexity. From the earliest program of donation of used equipment, tools, and information on vocational instruction in the California Community Colleges, to sending faculty to train CECATI instructors in Mexico, the SDCCD and CECATI have forged strong ties. The programs have generally focused on teacher and experiential training of CECATI instructors in facilities on the U.S. side of the border.

Students in the EEP-96 classes were CECATI instructors. They came to the program with an extensive background and many years of instructional and industrial experience. The students ranged from 22 to 56 years of age. The mean age was 37 years (standard deviation = 8.1 years). Overall, there were more male students (60.5%) than female students (39.5%).

As indicated throughout this report, program participants were very pleased with the project. The clear majority of participants found the courses to be timely, relevant, helpful, and useful in improving their understanding of technological change and their ability to communicate this new learning to students. Most reacted with tremendous pride that they were able to participate in this incipient innovative program and the overwhelming majority indicated that they would participate again. Their key areas of concern were in the areas of equipment and in some cases software availability in the CAD course, course duration, room conditions, and translation. Their concerns paralleled those of the SDCCD faculty. The SDCCD faculty indicated that greater coordination was needed to resolve certain logistical and customs problems with the availability of equipment. Also, they felt that while their Spanish had improved, they felt strongly that having a skilled translator on a consistent basis was critical to the success of the course and allowed them greater flexibility in dealing with the comprehension of course material rather than language. Overall program participants, CECATI officials, and SDCCD faculty judged the program a resounding success in accomplishing important goals.



# Introduction

In November 1993, the San Diego Community College District and the republic of Mexico formally entered into a training, technology, and educational exchange pact. The agreement was signed in Tijuana by Chancellor Augustine P. Gallego and governing board president Maria Nieto Senour for the SDCCD and by the Secretary of Public Education for the republic of Mexico, Ernesto Zedillo . This agreement, done in the spirit and in anticipation of the North American Free Trade Agreement (NAFTA) is intended to improve economic development and cultural exchange and understanding between the U.S. and Mexico. This agreement allows the SDCCD to enter into contract education to add the latest technology to Mexico's training programs, and conduct exchange compacts with any of the 200 Centros de Capacitacion Technologica Industrial (CECATI's) vocational training centers located throughout the republic of Mexico. The project completed under this agreement, the Educators Exchange Program (EEP), was described and evaluated in the Spring of 1995. The second project completed under this agreement, the Educators Exchange Program 1996 (EEP-96), is the subject of this second report.

International economic competitiveness in both the developing and developed nations continues to emphasize the development of high performance workplaces. According to some analysts, community colleges will be facing greater challenges as nations move away from policies shaped by political philosophies and toward policies shaped by economic forces. Recent changes in the world community have seen the rise in economic powers such as Japan, South Korea, Singapore, Taiwan, Thailand, and Hong Kong. In addition, the economic impact of rapidly industrializing nations in our hemisphere and on our borders such as Mexico and Brazil will provide economic challenges and opportunities (Terrey, 1992).

Many national leaders believe that an essential element to high performance workplaces is high performance schools and training centers. To continue

modernization and economic development, state and government officials believe that Mexican industry must keep pace with the latest developments in technology and technical training. A skilled workforce is viewed by state and national officials, and economists as an essential element to continued industrial modernization in Mexico. In a recent speech delivered in Tijuana by then-Mexican Secretary of Education, Ernesto Zedillo, he emphasized that the mission and role of the CECATI's place them in a pivotal position in achieving the national goal of economic improvement and industrialization. He maintained that improvements in the ability of CECATI's to train students in technological trades will lead to better performance in training and more technologically cogent work force in Mexico. Both the U.S. and Mexico will benefit economically from these improvements.

There are other rewards to be realized from this cooperation. According to many observers, international economic competitiveness will forge more trading alliances so that regions may capitalize on comparative advantages such as reduced labor costs, or availability of raw materials, in securing greater economies in production for distribution worldwide. These alliances will in large part rest upon not only mutual interest, but also upon cultural understanding, trust, and cooperation. This is particularly true in border regions where greater economic integration is also accompanied by cultural integration. Fundamental to this integration is mutual respect and appreciation for culture. To the extent that barriers to understanding and respect between cultures can be eliminated then greater economic cooperation and mutual benefit will be facilitated. This emphasis upon building and maintaining stronger cultural ties is evident in the agreement signed by Trustee Senour, Chancellor Gallego, and Secretary Zedillo, and in the support given to this effort by the Ford Foundation in Mexico City.

This agreement represents the latest in a series of steps toward these goals and builds upon earlier efforts to improve bi-national cooperation and understanding while providing high quality, relevant training to Mexico by the SDCCD. The rewards from the NAFTA will be in large part due to small scale programs such as Educators

Exchange Program. Programs such as the EEP between the SDCCD and CECATI's predate the NAFTA by several years. Mutual assistance agreements between the two institutions started in the late 1970's. A brief description of some of these earlier programs is provided later in this report.

# **Background: U.S. Community Colleges' Cooperative Educational Programs with Mexico**

For this evaluation a literature review of cooperative programs and agreements between educational institutions in Mexico and community colleges in the U.S. was conducted. As expected, the majority of agreements and trans-border institutional arrangements focus on educational exchange programs involving students. Many two-year colleges currently offer study-abroad programs in host countries. Often these programs are conducted over the summer months or winter recess. For example Rend Lake College (RLC) in Ina, Illinois created programs designed to foster more global awareness and understanding through opportunities to study abroad (Rust, 1992). Students with 2.75 grade point averages and over 15 credit hours of instruction logged are eligible to study in Mexico and other selected countries. The RLC program serves approximately 300 students per year and covers the costs of the program through a local foundation. The program also invites foreign students to enroll at RLC.

Similar to the Educators Exchange Program here in the SDCCD, RLC's program also includes a faculty exchange component. This allows participants to work with counterparts in Mexico and other countries for two weeks and host administrators from foreign countries. The program also sends industrial technology instructors to work with and train their counterparts in selected less developed countries (LDC's). In addition program officials are planning to include a component to allow five faculty members and an administrator to attend seminars offered at the Training and Resource Center for International Education for Community Colleges at Kalamazoo Valley Community College in Kalamazoo, Michigan.

Some programs focus on international agreements as a way to provide a global or regional perspective to existing curriculum. Often this is done to

"internationalize" the curriculums offered in trade and commerce, business, or marketing. According to the report on the RLC program, the overall goal is to internationalize the college community beyond the curriculum. A similar, though smaller-scale program is offered through a consortium of institutions in Illinois. This consortium of institutions also focuses on international issues through study abroad programs with Mexico and other selected nations. Again, the stated goal of this consortium effort is to provide more of an international, global, view on the college curriculum.

Another program that focuses on providing more global perspectives to the curriculum is the American Association of Community Colleges-Kellogg (AACCC-Kellogg) Beacon Project. This program seeks to internationalize the curriculum through the development and support of an International Education Consortium involving eight Michigan community colleges. Program goals are pursued through curriculum and staff development activities, joint international activities, an electronics communications network, and publications. The program sponsored the development of 31 instructional modules written by faculty for infusion into the existing curriculum for providing an international perspective to college courses. In addition, travel and study programs and work experience programs were offered for students, faculty, and staff in several nations including Mexico.

The literature also reveals the existence of a small number of programs that involve faculty exchange programs and some limited technological exchange agreements. In addition to the RLC faculty exchange program described above, there are projects that focus on providing technical assistance and training opportunities for maquiladoras. One example of such a program is the one described by Rath, (1988) and Slater (1988) at El Paso Community College in Texas. This program focuses on providing training and qualified bilingual instructors to provide technical education and training assistance to industries located along the U.S. - Mexican border. As with the EEP, this program also had to confront transportation, communication, and logistical

difficulties in implementation. Their report is instructive for structuring international programs and avoiding some common pitfalls in implementation.

There have been programs that have had improved bi-lateral relations as their major goal in the context of providing training and technical assistance. This also was a primary goal of the EEP and past efforts involving the SDCCD and CECATI's as described later in this report. Justiz (1980), describes the efforts of seven community colleges in the U.S. to implement a program of bi-national planning and cooperation with technology institutes in Mexico. In his review, Justiz found many similarities between the Mexican Institutos Technolicos and the community and technical colleges involved in the bi-national planning efforts. These similarities included historical development of the institutions, institutional mission, and state-imposed restrictions on bi-national agreements on both sides of the border. Justiz also describes mutual benefits to be obtained from these cooperative endeavors for both the community colleges and their counterparts in Mexico. These include cost effective strategies for providing training along the border, and regional economic development.

In 1989 the State Chancellor's Office of the California Community Colleges conducted a study to evaluate the study abroad programs offered for credit by California Community Colleges. Their study found that among all college districts surveyed, at least one college from each of the districts reported that they had students who studied abroad during 1988. Overall, survey respondents reported offering 94 study abroad programs in 1988 with approximately 2,834 students participating. Of the countries chosen for study abroad, Mexico was third on the list behind Great Britain and France. In general, students were selected for participating in the programs based on units completed and a GPA above 2.0. Criteria used for faculty assignments to the program included subject matter expertise, variety of courses a faculty member was qualified to teach, demonstrated ability to adapt to changing and unpredictable circumstances, and language proficiency.

To encourage educational exchange programs, U.S. and Mexican officials jointly established the United States-Mexico Commission for Educational and Cultural Exchange in 1990. Since that time several projects and agreements between the nations have been implemented by education officials and agencies in California. This commission is intended to support joint educational endeavors between the two nations to improve international relations, strengthen ties, and improve commerce, trade, and international economic competitiveness. In 1991, the United States-Mexico Border Conference on Education provided additional guidance to states and institutions interested in strengthening existing exchange programs and identifying new areas for cooperation.

The participants in the October 1991 U.S. - Mexico Border Conference on Education requested that the California Post-Secondary Education Commission (CPEC) survey California colleges and universities regarding exchange programs with Mexico (CPEC, 1992). In 1992 the CPEC conducted a survey regarding exchange programs that California's colleges and universities operate with Mexican institutions. Their review of educational exchange programs conducted by California colleges and universities indicated four primary types of exchanges between California colleges and universities and institutions in Mexico. These exchange programs were:

1. Student Exchange Programs
2. Faculty Exchange Programs
3. Teacher Training
4. Technology Transfer

The CPEC study found that at least 65 California colleges, universities, and community college districts that responded to their survey offered study abroad programs for resident students. Twenty of the institutions had students currently studying in Mexico. However they found far fewer institutions (26) involved in two-way student exchanges with Mexico where reciprocal movement of students between the nations occurred. None of the twenty-six institutions specifically focused their educational exchange programs on Mexico. Of these, San Diego State University, and the United States International University were the only institutions in the San Diego region.

Of the institutions responding to the CPEC survey, 18 had faculty exchange programs with Mexico. There were several community college districts that offered these types of programs at that time. Two institutions in the San Diego area were found to offer faculty exchange programs specifically with Mexico: Grossmont College and the San Diego Community College District.

In the area of teacher training, nine public institutions had implemented teacher training programs with counterparts in Mexico. Among community college respondents to the survey, Los Angeles Valley College and San Diego City College were also involved in teacher training efforts in Mexico.

Technology transfer to Mexico was a focus of many California colleges and universities responding to the CPEC survey. For example UC Davis has established approximately 14 agreements with Mexican institutions through the UC's "Mexus" program and University Extension. Six of the state university respondents were engaged in technology or technical assistance programs with postsecondary education institutions in Mexico. These programs include consulting, special seminars, graduate students working in rural towns or municipios, exchange visits, and international and systemwide computer networks such as INTERNET and PROFNET. Among community college respondents, some of the colleges in the Los Angeles Community College District provided technical assistance on curriculum design, new technologies, and teaching methods to Mexican training institutions. In the San Diego area, San Diego City College and Southwestern College both reported offering technical assistance to Mexican institutions.

The CPEC study found that technology transfer was facilitated by communication links between the cooperating institutions. For the UC, the communications and delivery systems included national resource centers for the U.S. Department of Energy, FAX links to the Education Abroad Programs, INTERNET, and on- and off-campus internships. In the case of the community college respondents, they relied primarily on the Central California Consortium, interactive television, audio,



video, and student newspaper exchanges, on- and off-campus training, industry internships, and satellite linkages.

In their review, the CPEC researchers identified common barriers and stimuli to the implementation of exchange programs. The stimuli cited most frequently that encouraged participation in exchange programs were interest by faculty members and administrators, proximity to the border, border agreements, and bi-national research efforts. Barriers to involvement were most often fiscal constraints. In a few cases, programs were inhibited by a lack of leadership in promoting these types of exchanges, limited coordination and initiative, and lack of personnel.

To encourage more educational exchange programs, the CPEC reviewers made the following recommendations. One of these was to allow Mexican nationals to attend public colleges and universities while paying resident tuition. Such a program was found in Texas that allows with certain restrictions, Mexican nationals to attend general academic teaching institutions at in-state rates if they prove financial need.

CPEC reviewers also stressed the potential economic benefit to California institutions by providing training programs, possibly through expanded contract education opportunities. They suggested greater efforts be made by institutions to develop contractual relations with clients in Mexico.

## **Literature Review Summary**

The literature review suggested that the goals of the EEP were in many ways similar to the goals for other agreements forged between community colleges in the U.S. and counterparts in Mexico. As other programs summarized above, the EEP has the goals of economic improvement, expanded training opportunities, greater cultural understanding, and trans-national cooperation. Also, many of the faculty exchange

programs reviewed showed similar program objectives such as greater cultural understanding, internationalizing the curriculum, language improvement, knowledge of alternative educational delivery systems. These features and goals are found in practically all of the programs that were reviewed for this evaluation.

However, the EEP had some features unique to itself. It was focused on a careful assessment of regional training needs of the local CECATI's in Guanajuato. The program sent instructors from the SDCCD to the CECATI training sites and private industries in Guanajuato to make the training more appropriate and the learning more transferable. This instructor-in-residence approach had the goal of making the SDCCD faculty more familiar with the conditions and challenges faced by their colleagues, and to make the instruction more directly relevant to the students. These students would then be better able to train others in the use of the existing equipment and facilities at their local CECATI's. This contextually-based training approach was found to be of greater value and was shown by the evaluation questionnaire to be highly relevant to the instructors receiving training. Through the classroom approach, many more instructors could be trained on the uses of more modern equipment. At the same time, instructors returning to their local CECATI's could better inform administrators and CECATI officials of the latest advances in these technologies and request the latest equipment and software. This would serve to help keep the CECATI's more current and better meet the needs of an expanding and increasingly competitive industrial and economic market economy. These features distinguish the EEP from the other programs reviewed.

## **SDCCD AND CECATI TRANS-NATIONAL COOPERATION: 1978-1994**

This latest pact between the SDCCD and the CECATI's to provide advanced technical training to teachers is the most recent in a series of agreements and actions both formal and informal that have occurred since approximately 1978. This section chronicles much of the history and background of the SDCCD and CECATI

relationship. An understanding of this relationship over the last 15 years provides an informative context for this evaluation and shows the progress made since the initial agreements were forged in 1978-1979.

In September 1978, the SDCCD Board of Trustees was presented with reports about a series of meetings that had taken place between SDCCD administrators in vocational education and adult education and CECATI Number 6 (Tijuana) administrators. These meetings were conducted to identify possible avenues of assistance to the CECATI from the SDCCD. In June of that year, SDCCD administrators from the adult education and vocational education divisions visited the CECATI site in Tijuana. It was here that SDCCD officials established initial contact with the CECATI officials in Mexico, and learned some of the challenges faced by these centers both in training and maintaining pace with technological change. Following this meeting, requests for assistance to the CECATI in Tijuana were forwarded by SDCCD administrators to the SDCCD governing board. These initial requests focused primarily on donated equipment, textbooks, instructional materials, surplus supplies, course outlines, curriculum materials, and information regarding the requirements and procedures for obtaining a vocational teaching credential in California at that time.

Opportunities for CECATI officials and faculty to visit vocational classrooms in the SDCCD were also discussed and approved by the governing board and SDCCD staff. At that time, CECATI officials were interested in visiting classes where training in electronics, radio communication, welding, carpentry, and ESL was provided. In addition to classroom and site visitations, the agreement also included sharing with CECATI officials documents pertaining to the administrative structure of the SDCCD, with particular focus on the instructional delivery system in vocational education. Information on how curriculum is developed and the role of vocational education advisory committees in shaping the training offered by the SDCCD was also provided to the CECATI staff.

In retrospect, the first contacts and subsequent agreements between the two institutions might best be viewed as a process of getting acquainted with different systems and different perspectives on training from both sides. A review of the documents and a collection of memos and correspondence from that time suggest that much was learned from these initial contacts, particularly about the different instructional delivery systems. These first meetings led to a series of contacts of growing complexity and involvement. On a national level, Mexico renewed a rapid process of modernization that continued throughout the 1980's fueled by discoveries of petroleum-rich deposits in the southeastern part of the nation. Throughout this period, technical training was viewed by the national leadership as an important element in this modernization. At the same time, the SDCCD was interested in providing training opportunities and regional collaboration to add to its offerings of training and educational services. International opportunities for training and contract education combined with a general commitment to international good-will provided a strong incentive for SDCCD participation in this project.

### **The CECATI/SDCCD Vocational Teacher Intern Program (VTIP)-1979**

Some of the origins of the current Ford project can be found in a joint project between the SDCCD and CECATI Number 6 in Tijuana conducted in 1979. As with the recent Ford-sponsored project, the primary area of cooperation with the CECATI was in the area of teacher training. Following a tour of the CECATI site in Tijuana in July 1979 by the SDCCD Chancellor and staff, SDCCD staff wrote a proposal in cooperation with the local CECATI officials to offer a Vocational Teacher Intern Program (VTIP). In this cooperative program, six faculty from the CECATI worked under the direction of some of the SDCCD's vocational education instructors during the fall, 1979 semester. The purpose of this training was for CECATI instructors to learn instructional techniques and to begin an English as a Second Language (ESL) course for non-English speaking CECATI instructors. This proposal was approved by the Board of Trustees and the VTIP was implemented during the fall, 1979 semester.

During the program, the SDCCD provided training to selected instructors from CECATI #6 in Tijuana in their technical specialty as teacher interns. A typical day for the interns was divided into two four-hour time blocks. During the first half of the semester visiting interns participated in various advanced projects under the direction of the instructor for the first four hours of the day. The purpose of this was to acquaint the interns with the teaching and learning process as it occurred in vocational programs here in the SDCCD. In the second half of the semester, interns served as teacher assistants working directly with their assigned instructor and shared in teaching duties for students in the class.

During the second four hour block of each instructional day, the interns were assigned to a position in local industry that was directly related to the training they were receiving. Here the interns were given the opportunity to experience first-hand the application of some of the latest technologies in their technical specialty and for which they would eventually be preparing students. This combination of classroom and experiential education was intended to provide a useful context for training and building bridges of understanding.

In addition to their assignment with a vocational education instructor, each intern was assigned to a vocational education coordinator who provided assistance and made arrangements during their stay for site visits, transportation, and attendance at various events in the SDCCD and elsewhere. All graduates of the VTIP attended a graduation ceremony and received certificates of completion. Although there was not a formal evaluation of the program at that time, a review of the documents and correspondence between Mexican officials and the SDCCD governing board from that period suggests that the visiting interns benefited from their participation and the program was well received here in the SDCCD and by CECATI counterparts. It also appears that this initial program paved the way for a subsequent agreement built upon the same premise of teacher training, experiential education, and cultural immersion. This program was of longer duration and of greater complexity than the VTIP.

## **The International Instructor Intern Program in Vocational Subjects (IIPVS)- 1986**

In 1986 the SDCCD offered in conjunction with the CECATI the International Instructor Intern Program in Vocational Subjects (IIPVS) in 1986. This program was intended to provide training to selected CECATI instructors through a combination of instructional, experiential, on-the-job, and educational activities. During the six month duration of this program, interns were provided a varied combination of experience and immersion in vocational education, training techniques, industrial applications, and cultural experiences. This was done through seminars, internships in industry, site visits, attendance at local cultural and educational events, and daily instruction.

The IIPVS program greatly resembled the VTIP described earlier. However the scope and length of the IIPVS program was on a larger scale. The program lasted almost half a year, and participants were expected to participate in a wider variety of activities such as seminars on instructional technology and techniques. In addition, interns were expected to produce papers describing their experiences and any improvements in their teaching realized from participating in the program. In addition to greater program length and more varied activities, the IIPVS program also involved other two other neighboring community college districts.

The IIPVS program consisted of three primary components. One of these was an instructional practicum in a vocational education classroom or lab of the SDCCD. The practicums were offered for four hours each day for fourteen weeks. Each of the interns were under the direct guidance and supervision of a SDCCD vocational instructor. The practicums included practice teaching through the use of interpreters in both classroom and laboratory settings. As part of their participation in the program, the interns were required to prepare a final paper describing their experiences and outcomes from their participation in the daily practicums.

The second component emphasized on-the-job industrial training (OJT) in an industry closely related to the instructional specialty of the intern. This experiential

component combined with teaching practicums was similar to the format of the VTIP six years earlier. The OJT component was run for four hours per day for eight weeks. Each intern was asked to report to the participating firm or business and was directed in their activities by an assigned supervisor. Each intern was responsible for preparation of a final paper describing their experiences and the cognitive and behavioral changes they experienced as a result of participating in the OJT. Final papers written in both English and Spanish were presented to the local CECATI Director and the SDCCD Director of Vocational Education.

The third component of the IIPVS included various educational and instructional activities designed to improve their teaching, training, and program evaluation abilities. Special seminars were offered in a variety of areas such as teaching techniques, using computers in vocational education, competency based vocational education (CBVE), and program evaluation methods. Interns were also engaged in evaluating the final papers submitted by their peers and assisting in preparing the status report of the overall program for review by CECATI and SDCCD leadership. These special seminars and activities were scheduled over a two-week time period and were generally four hours in length. At the conclusion of the seminars and submissions of final papers, a special recognition and awards ceremony was held in Tijuana, B.C., Mexico.

Other features of the program facilitated its success. Logistical and local arrangements for everything from accommodations to OJT internships had to be coordinated. As in the VTIP, each CECATI intern was assigned to a SDCCD vocational education coordinator who assisted in making local arrangements and providing help when needed. SDCCD administrators worked to secure the necessary documentation for living and studying in the U.S., and worked with Mexican immigration officials to enable the students easy passage with any specialized tools or equipment they brought with them either into the U.S. or into Mexico.

## Prior Exchange Programs: Summary

Prior to the most recent Ford-sponsored effort, SDCCD and CECATI training institutions in Mexico had developed a long tradition of partnership and cooperation. This has been done since 1978 through a series of exchanges of increasing scope and complexity. From the earliest program of donation of used equipment, tools, and information on vocational instruction in the California Community Colleges, to sending faculty to train CECATI instructors in Mexico, the SDCCD and CECATI have forged strong ties. The programs have generally focused on teacher and experiential training of CECATI instructors in facilities on the U.S. side of the border.

There have been other joint projects and agreements for future programs. Recently, the SDCCD had developed agreements and provided assistance to other technical institutes and universities in Mexico. For example, in the summer of 1993, Mexican professors came to San Diego to learn advanced technology in manufacturing. One year ago, the SDCCD entered into an agreement with a university in Tijuana to begin a joint program with Mesa College's architecture department. This will begin a series of exchange projects, including students designing and constructing low-income housing. The SDCCD is also cooperating with Mexico's CONALEP institutions in designing and providing advanced technical training. CONALEP includes approximately 200 colleges and institutions that provide advanced and generally longer training programs than the CECATI programs do.

In the summer of 1993 the Vice-Chancellor and Chancellor of the SDCCD met with CECATI and other Mexican officials in Mexicali, B.C. to discuss future areas of cooperation and partnership. At this meeting, CECATI officials from the state of Guanajuato discussed with the SDCCD Chancellor and Vice-Chancellor the idea of sending instructors from the SDCCD to selected CECATI sites in the state of Guanajuato to provide training to local CECATI vocational instructors. Following a series of meetings and public discussions with the SDCCD governing board a tentative plan for the project was developed. Following these meetings the Mexican



officials invited selected staff from the SDCCD to visit and tour CECATI training sites in Guanajuato where the SDCCD faculty would be working. These faculty and other staff expressing an interest in the program visited the state of Guanajuato in early January 1994. At that time arrangements were made for four instructors to conduct a four week training program in June of 1994. At the same time, SDCCD and CECATI officials worked cooperatively to develop a proposal to be submitted to the Ford Foundation in Mexico City. After review of the proposed goals and additional information from the SDCCD, the Ford Foundation approved the funding of the proposal. This first project completed under this agreement was described and evaluated in the last report. The second phase of this project EEP-96 is the focus of this report. The findings for this report though similar to the first, reflect the experiences and insights gained from the faculty and students involved in the program.

# The Educators Exchange Program

## The Educators Exchange Program 1994 (EEP)

The Educators Exchange Program 1994 (EEP) builds upon the knowledge and experience gained over sixteen years of cooperation, and includes important dimensions not found in the previous programs. A key element to this program was the selection of four highly recognized instructors in various vocational and technical training areas to provide training to CECATI teachers at the CECATI training facilities in the state of Guanajuato, Mexico. To help support this program the SDCCD applied for and received a grant from the Ford Foundation in the spring of 1993 to provide a teacher exchange program with CECATI's located in the state of Guanajuato. During the planning stages of the grant application, Chancellor Gallego and other district leaders and faculty held planning discussions with national and state CECATI leaders, as well as the local CECATI directors to identify strategies and local training needs and facilities. They recommended that the focus of the Ford grant should be to support the training of teachers in Mexico in the latest technology and training techniques.

Leadership and follow-up in this incipient and unique exchange program was a critical element in the success of the grant application. Following a series of planning meetings involving several SDCCD administrators and faculty and CECATI state and national officials, Chancellor Augustine P. Gallego worked closely with CECATI leaders and with Norm Collins of the Ford Foundation of Mexico City in making operational the details and structure of this new program.

These planning meetings led to the development of a needs assessment designed to identify instructional needs in the Guanajuato CECATI's. The needs assessment attempted to match the perceived training needs, facilities, equipment, with the necessary SDCCD instructional resources. The needs assessment

identified a need for training in four subject areas: Introduction to Air Brake Systems, Ceramics, Office Systems, and Introduction to Computer Numeric Control (CAD/CAM).

Once these local needs were identified Chancellor Gallego and Vice-Chancellor Brooks invited instructors from four technical areas to participate in the four week program. These instructors were invited primarily on the basis of their expertise, prominence in the field of study, and interest in living and teaching in Mexico. Instructors selected had long demonstrated a combination of instructional talent, technological expertise, and interest in cultural immersion. The proposal sent to the Ford Foundation in Mexico City included information about the proposed project, a brief chronology of recent CECATI and SDCCD partnerships, and background information and demographics of both institutions. With the support of Ford's representative in Mexico City, and with broad participation from educators and officials from both countries a proposal was sent to the Ford Foundation in Mexico City and was subsequently approved.

Under the Ford grant, the four selected vocational instructors from the SDCCD went to the state of Guanajuato, Mexico in the summer of 1994 to train CECATI instructors in a variety of technical areas. The approved grant was to focus on preparing CECATI professors to teach current technology to business and industry, including computerized machine shop, environmental safety, hazardous waste control and quality improvement measures. The four instructors selected were Mr. Jack Bollinger from City College, Dr. John Conrad from Mesa College, Mr. Jim Lewis from Miramar College, and Ms. Nadine Reid from the Educational Cultural Complex (ECC). Professor Bollinger taught Computer Numeric Control and Computer Aided Design, Dr. Conrad taught Ceramics Technology, Professor Lewis taught Air Brake Systems, and Professor Reid taught an Office Systems course. All courses were taught during a four week session. Instructors had to modify the course material to fit the instruction into the abbreviated time period of four weeks.

Training did not focus solely on new emerging technical areas. The Ford grant also helped to enable the CECATI ceramics teachers to learn current technology to apply to the centuries old methods of manufacturing ceramics in Dolores Hidalgo. For example, Mesa College professor John Conrad taught Mexican ceramics professors, manufacturers and shop owners how to improve the quality, strength, and durability of their products, including reducing lead content. This training took place in Dolores Hidalgo where the ceramics industry has long been a mainstay of the local economy and tradition. This training was intended to preserve this ancient tradition of ceramics manufacturing by making the product safer, more durable, and of improved quality and safety for international trade.

Another important characteristic in the selection process of the faculty was flexibility and patience. This new program contained many unforeseen circumstances and challenges. As this evaluation reveals, faculty and administration who worked on this project demonstrated a capacity to meet challenges brought by a new program in a foreign nation. Local CECATI administrators also demonstrated initiative and versatility. The faculty and local leaders involved in the program had to demonstrate a combination of instructional expertise, technical knowledge, cultural openness, and a great deal of flexibility and initiative almost on a daily basis. Although some of these challenges were problematic, there were positive side-effects. Evaluation suggests that a new cultural understanding of the intricacies, logistics and related issues in trans-national exchange programs was gained by participants on both sides of the border. This outcome was an important one, and was a primary goal of the Ford grant.

### **The Educators Exchange Program 1996 (EEP-96)**

The most recent program- The Educators Exchange Program 1996 (EEP-96) - is the focus of this evaluation report. Based on the Educators Exchange Program 1994 (EEP), the 1996 program incorporates the strengths and rectifies the

weaknesses of its predecessor. It expands and improves upon the success of the EEP. Three additional subject areas were included: Textiles, English as a Second Language, and Hydraulic Systems. Seven instructors were selected to teach the following courses:

- Course #1- Introduction to Technical Ceramics** taught by Mr. John Laver, a ceramics expert from San Diego.
- Course #2- Air Brake Systems** taught by Professor Jim Lewis from Miramar College.
- Course #3- Textiles** taught by Ms. Rosa Shook from Continuing Education.
- Course #4- Introduction to Computer Numeric Control (CAD/CAM)** taught by Professor Jack Bollinger from City College.
- Course #5- Office Systems** taught by Ms. Nancy Seamster from Continuing Education.
- Course #6- English as a Second Language** taught by Professor Mary Beauparlant from Continuing Education.
- Course #7- Hydraulic Systems** also taught by Professor Jim Lewis.

This teacher exchange program represented a significant first-step for both institutions. Challenges, both known and unanticipated were many in these incipient programs. Lessons learned from these first programs would be applied to future programs. Thus, the outcomes and process of these first programs are essential knowledge to the success of future international pacts

The purpose of this evaluation is to document and report these outcomes for future joint efforts in training and technical assistance between the U.S. and Mexico. In the spirit of NAFTA and greater economic integration to meet world demands for competitiveness, the technical assistance pacts between these two large institutions might be viewed as a model for other institutions to follow. This evaluation is intended to inform and guide our efforts on improving future joint programs. Therefore this evaluation takes a formative approach and philosophy. Much of what we learn from this initial endeavor can be applied to future exchanges.

## Evaluation Approach

After a review of program materials and the grant proposal to the Ford Foundation, two evaluation instruments were designed (see Appendices A and B). One was a questionnaire designed for completion in-class to students (Appendix A). The other was a survey for the six instructors asking them to describe in detail their experiences and recommendations for future implementation of this program (Appendix B). In addition, we were interested in understanding if a major conceptual goal of the grant had been partially attained, that of greater cultural understanding and cross-cultural awareness for both the instructors and the instructors they were training.

The in-class survey was designed and reviewed by project staff, the SDCCD Vice-Chancellor, Chancellor, and CECATI officials. Following this review, the instrument was translated into Spanish for administration to students in the program. Although obviously a necessary part of the process, the translation resulted in an inadvertent change in the original thrust of some questions. This subtle change in meaning required some explanation and mid-course correction when administered in Mexico to maintain fidelity with the original intent and framing of the evaluation questions. The questionnaire was administered to students during the final week of classes. Questionnaires were also given to the six SDCCD vocational instructors to complete for inclusion in this evaluation report.

## Student Evaluation

The in-class evaluation focused on several general areas. Development of the evaluation instrument was guided by the goals of the Ford grant and local evaluation needs for both CECATI officials and SDCCD administrators and faculty. These included overall course quality, duration, and language and cultural issues. Some limited demographic data were collected on the evaluation instrument. These

evaluations were coded and entered into a database by the Research and Planning Office, and analyzed using the Statistical Package for the Social Sciences (SPSS).

The evaluation instrument focused on student perceptions of the course in terms of training objectives, knowledge gained, and other data. Little information was directly obtained about actual competencies learned in the content area of interest, unless done by an instructor on a voluntary basis. For example, three instructors greatly assisted in this effort by conducting pre- and post-testing on the content of their courses to measure gains made in the desired competencies. Professor Lewis', Professor Bollinger's and Ms. Seamster's use of pre-post testing was an excellent example of adaptation and insight into the goals of the program. It also provided concrete evidence of the success of the program. Their analysis suggested tremendous improvements in content knowledge. T-test results suggest very high gains from pre-test to post-test content knowledge ( $p < .0001$ ). This type of information, although not available for the other courses, strongly suggests that the exchange program is achieving a primary goal of improving knowledge in current technology.

## **Instructor Evaluation**

Instructors were also given a brief questionnaire to complete (Appendix B). Questions were developed by the Research and Planning department in conjunction with Vice-Chancellor Brooks and Chancellor Gallego. The instructor evaluation instrument focused on course duration, ability to complete training objectives, program improvement, cultural adaptation, pre and post Spanish speaking ability, knowledge of training delivery systems in Mexico, living arrangements, extra-curricular activities such as visiting with local families, cultural events and attractions, and overall evaluation of the program for future development. The evaluation, as with the student evaluation, was primarily formative. That is, the information was sought

primarily to improve future exchanges and anticipate future problems (see Appendix C).





# Evaluation Results: Student Demographics

As stated above, some limited demographic information was obtained about the students. These questions focused on gender, age, enrollment purpose, English proficiency, state of residence, educational history and attainment, and family background. These questions were also included to provide requested information by the funder regarding the backgrounds and characteristics of the students served.

## Gender, Age, and Disability Status

The students consisted of 119 CECATI instructors who came to the program with an extensive background from many years of instructional and industrial experience. The students ranged from 22 to 56 years of age. The mean age was 37 years (standard deviation = 8.1 years).

Overall, there were more male students (60.5%) than female students (39.5%).

However, the ratio of male to female students varied considerably across the seven classes. In the Air Brake Systems, Hydraulic

Systems, and Introduction to Computer Number Control (CAD/CAM) classes all of the students were male ( $n_s = 16, 18, \text{ and } 18$  respectively).

Conversely, in the Office Systems and Textiles classes all of the students were female ( $n_s = 17$  and 18 respectively). There was a wider range of gender diversity in the Introduction to Technical Ceramics ( $n = 13$ ) and ESL classes ( $n = 19$ ),

with the percentage ratio of male to female students reaching approximately 85% to 15% and 47% to 53% respectively.

Two of the students had either a physical or learning disability.

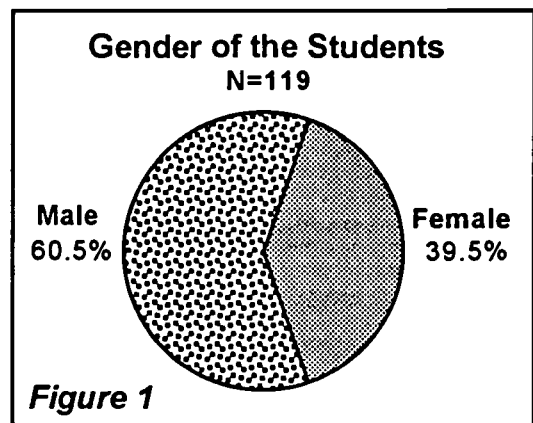


Figure 1

## Purpose for Enrolling in the Course

Consistent with the goals of the program, the primary reason individuals enrolled in the courses was to improve their ability to perform at their present job. The majority of the students (79.5%) expressed this desire to sharpen their skills in order to excel in their current job. This striving for improvement suggests that the students of the program are a highly motivated group of individuals.

## Pre- and Post-Course English Proficiency

A primary goal of the Ford grant was to improve students' understanding of technical terms and overall proficiency in English. To assess this goal, we asked students to

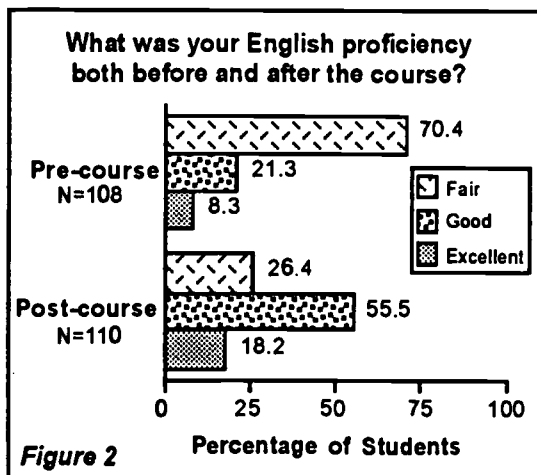
rate their own English language skills before and after the course. The students reported impressive improvements. Even in courses where translation into English was often or sometimes not available, the respondents generally stated that their

English skills had improved substantially. Based on the self-report data, a paired sample t-test was conducted to determine the statistical significance of the mean difference in pre- and post-course English proficiency. As shown in Table 1, the

English Proficiency			
T-test for Paired Samples			
	Mean	Standard Deviation	SE of Mean
<b>Before/After the Course</b>			
Number of pairs = 108    Correlation = .660    2-tail significance = .000			
Pre-English: Before the Course	1.38	0.64	0.06
Post-English: After the Course	1.94	0.66	0.06
<b>Paired Differences</b>			
t-value = -10.78    df = 107    2-tail significance = .000			
95% CI (-.658, -.453)			
	-0.56	0.54	0.05

**Table 1**

results confirmed a significant difference between pre- and post-course at the .0001 level.



Before the course, most of the students reported "fair" English proficiency (70.4%) and far fewer students reported "good" and "excellent" English proficiency (21.3% and 8.3% respectively); see Figure 2. After the course, students stated that

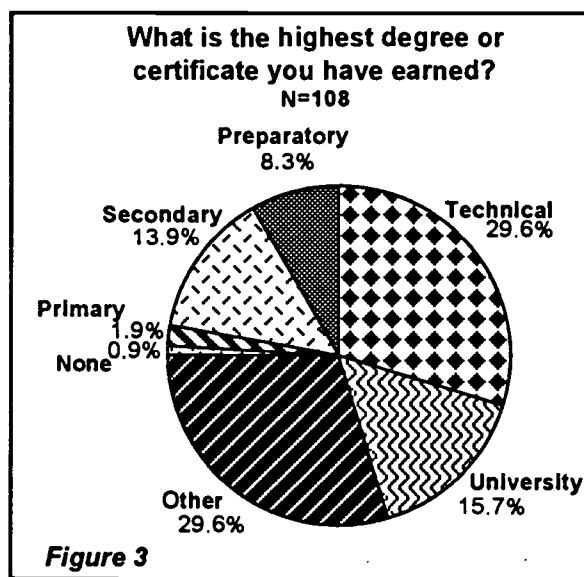
their English proficiency had improved unequivocally and there is a clear shift away from fair towards good and excellent responses. In the post-course evaluation, fewer students indicated "fair" (26.4%), the majority of the students specified "good" (55.5%), and more students indicated "excellent" proficiency (18.2%) compared to pre-course responses. As previously stated, the differences between pre- and post-course English proficiency was statistically significant.

### Mexican State of Origin

The majority of the students (35.9%) came from the state of Guanajuato. Some students (13.7%) resided in the state of Baja California, Puebla, Quintana Roo, and Veracruz; these individuals were so highly motivated that they would commute a distance of several hundred miles, at the beginning of the week to attend class and at the end of the week to return home. Another group of exceptionally motivated students (1.7%) traveled several thousand miles from Sonora to take the courses.

### Highest Degree or Certificate Earned

Generally, the students had completed higher levels of education compared to the average person from the republic of Mexico (UNESCO, 1991); see Figure 3. This finding was expected because the students were instructors themselves, often with several years of training and industrial experience.

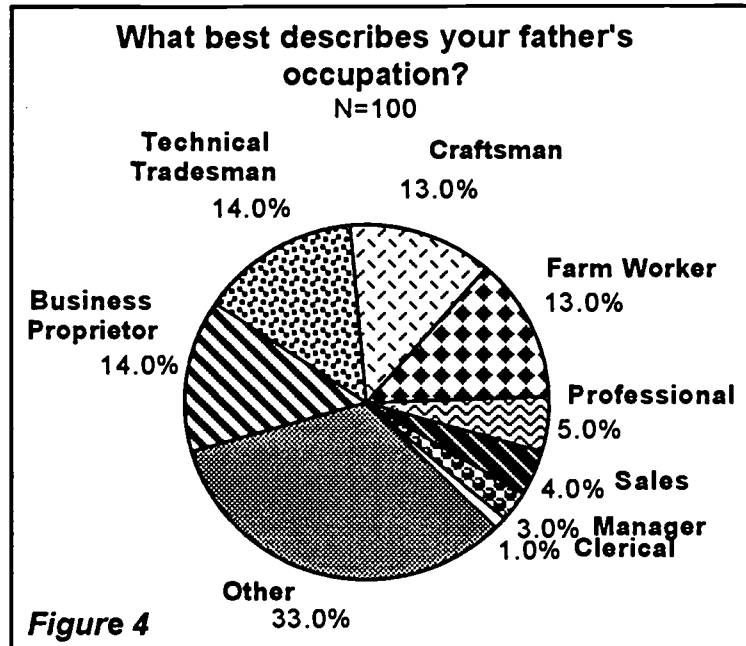


### Years of Education Completed

Students indicated that they had completed between 4 to 30 years of education. The mean years of education completed was 14.7 (standard deviation = 4.3 years; mode = 15 years). For the number of years of education completed, measures of central tendency were stable.

## Father's Occupation

As part of background socio-economic data, students were asked to indicate their fathers' occupational status (Figure 4). The four most common occupational categories specified by the students were business proprietor (14.0%), technical tradesman (14.0%), craftsman (13.0%), and farm worker (13.0%). However, 33.0% of the students responded "other." These responses were not categorized in this study.



## Evaluation Results: Students' Perceptions

For the purpose of program improvement, we asked students to indicate their level of agreement or to provide a qualitative judgment on various aspects of the course. Students were instructed, both orally and in writing, to be critically honest. They were reminded that the questionnaire is anonymous and that their answers are confidential. These important points were reiterated by the evaluator, the CECATI officials, who assisted in the evaluation process, and the SDCCD instructors.

The following section summarizes the students' responses. All percentages reported, in the text and figures, are based on a sample size of 119 respondents who had completed the survey during the week of on-site evaluation. For certain questions and classes, the sample size decreased slightly because of incomplete, illegible, or non-responses. The exact sample size for specific questions and classes are reported on the figures (Figure 5 to Figure 28). The course number one through seven corresponds with the following course titles and locations:

Course #1- Introduction to Technical Ceramics, taught in Dolores Hidalgo, Guanajuato.

Course #2- Air Brake Systems, taught in Celaya, Guanajuato.

Course #3- Textiles, taught in Salamanca, Guanajuato.

Course #4- Introduction to Computer Numeric Control (CAD/CAM), taught in Celaya, Guanajuato.

Course #5- Office Systems, taught in Celaya, Guanajuato.

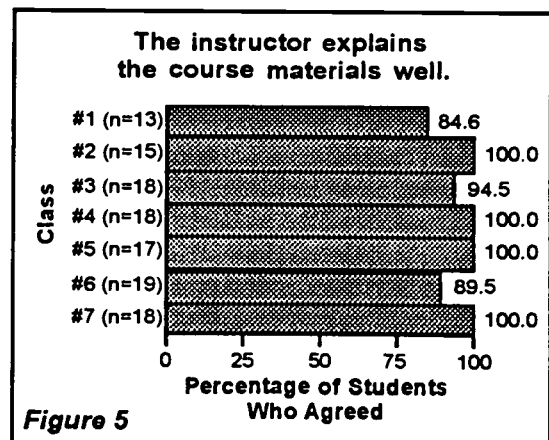
Course #6- English as a Second Language, taught in Celaya, Guanajuato.

Course #7- Hydraulic Systems, taught in Celaya, Guanajuato.

### *Students' Perceptions: Instructors' Teaching Practices*

#### **Explained Course Materials Well**

The students expressed overwhelming satisfaction with the manner in which the instructors explained the course material (Figure 5). Over 95% of the students (95.8%) agreed that the instructors explicated the course materials



well. In four of the seven classes (class # 2, 4, 5, and 7) where the instructors had skilled translators to assist them, student satisfaction with this aspect of the course increased to 100%.

### Treated Students with Respect

Most of students expressed that their instructor treated them with respect and courtesy (Figure 6). Across the seven classes, 94.1% of the students strongly agreed or agreed with this survey question. A major focus of the Ford grant and EEP program was to foster cultural awareness and respect. In accordance with these goals, the students' views toward their instructors regarding this aspect of the program were highly favorable.

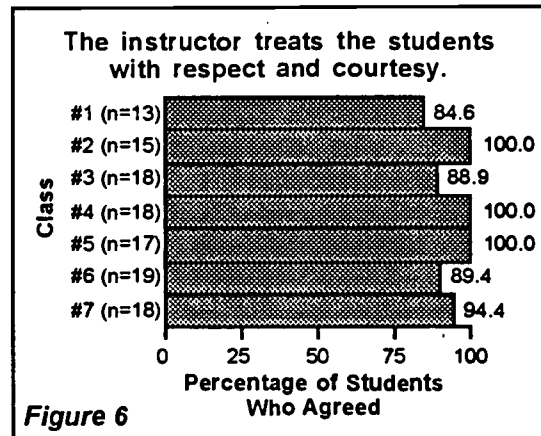


Figure 6

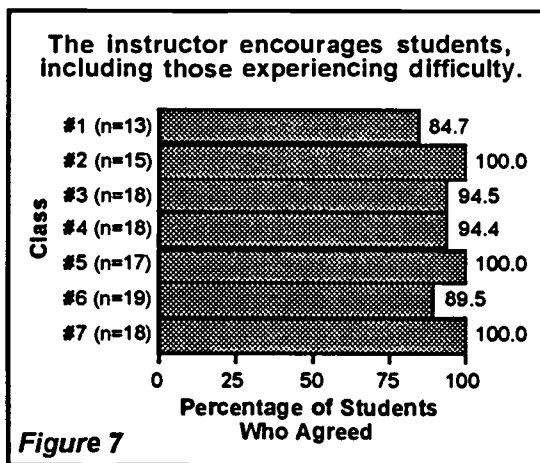


Figure 7

### Motivated Students to Learn

The students asserted their contentment with the manner in which the instructors motivated students to learn (Figure 7). The instructors motivated both students that comprehended the course concepts easily and those who had difficulty. Approximately 95% of the respondents (94.9%) strongly agreed or agreed with this survey question.

### Clarified Course Objectives

From the beginning, the instructors specified the course requirements and objectives to the students. The students affirmed this practice; overall, 93.3% of the students expressed satisfaction with the manner in which instructors clarified the requirements and objectives of the course (Figure 8).

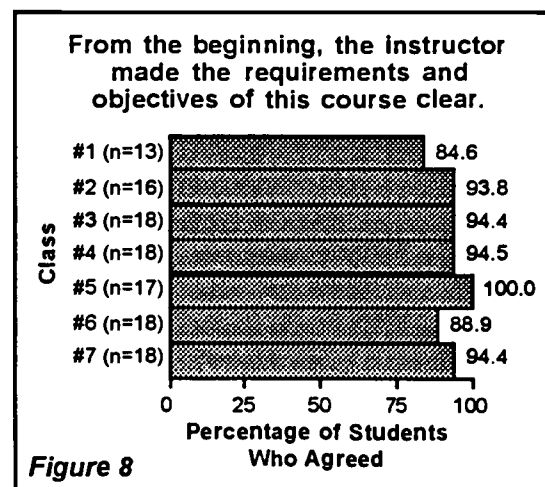
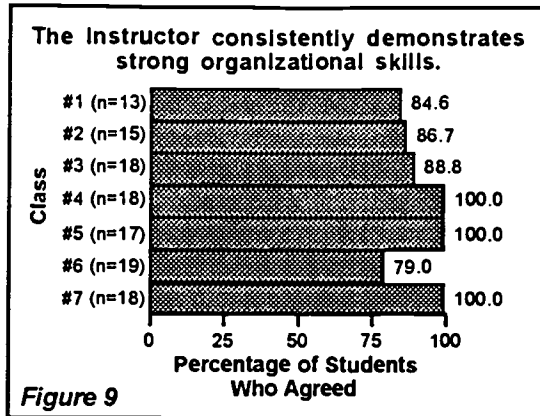


Figure 8

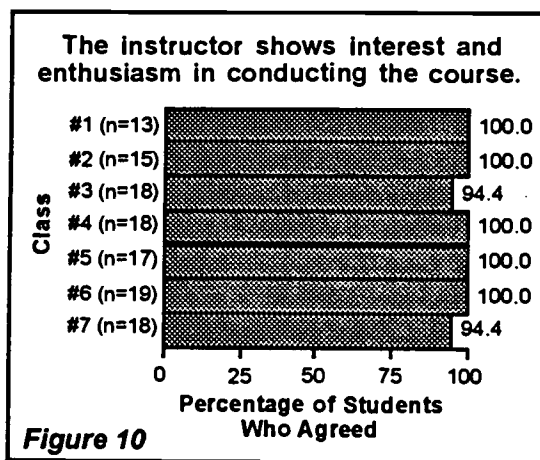
## Exhibited Strong Organizational Skills

Generally, students praised their instructor's organizational skills in the classroom. Over 90% of the respondents (91.5%) agreed that their instructor exemplified this characteristic (see Figure 9).



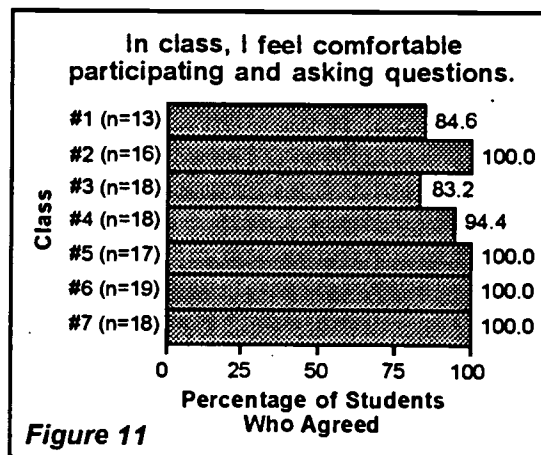
## Showed Interest and Enthusiasm

Approximately 98% of the students (98.3%) either strongly agreed or agreed, that their instructor exhibited high interest and enthusiasm in conducting the course (Figure 10). In five of the seven classes (class # 1, 2, 4, 5, and 6), 100% of the students were pleased with their instructor's interest and excitement in the topic. These exceptionally high student ratings illustrate the instructors' dedication to their students, to the program, and to their field of expertise.



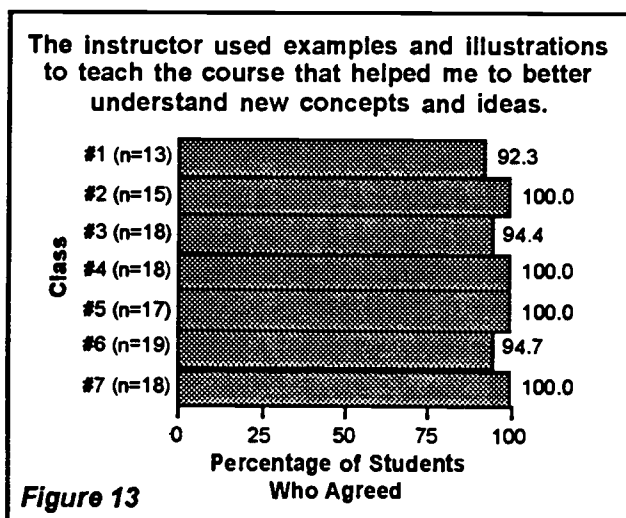
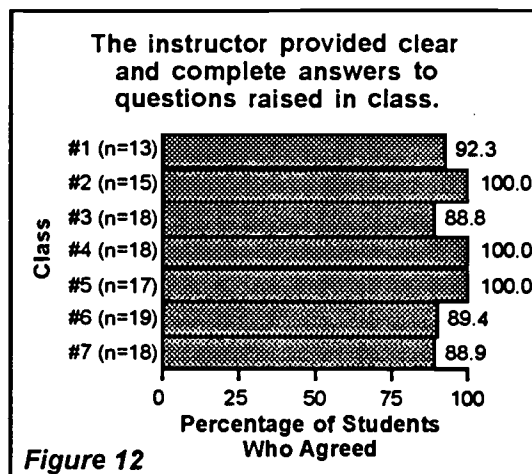
## Encouraged Class Participation

Ninety-five percent of the students (95.0%) agreed that their instructor created and fostered a classroom environment where they felt encouraged to participate and ask questions (Figure 11). In four of the seven classes (class # 2, 5, 6, and 7), 100% of the students indicated complete satisfaction with this aspect of the classroom climate (either by strongly agreeing or agreeing with this survey question).



## Provided Clear and Complete Answers to Questions

Nearly 95% of the students (94.1%) reported that their instructor clearly and thoroughly answered their questions (Figure 12). Despite language differences between the students and the instructors, the students unanimously expressed that their instructor gave them satisfactory responses and clarified course concepts. These results demonstrate the resolute commitment that both the instructors and students have made to the course and to the learning process.

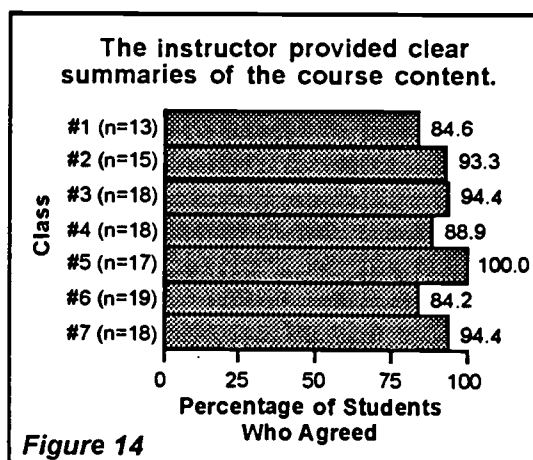


## Used Examples and Illustrations

Over 95% of the students reported that their instructor used examples and illustrations to facilitate the comprehension of new concepts and ideas (97.5% strongly agreed or agreed); see Figure 13. In four of the seven classes (class # 1, 2, 4, 5, and 7), this percentage increased to 100%.

## Provided Clear Summaries of Course Content

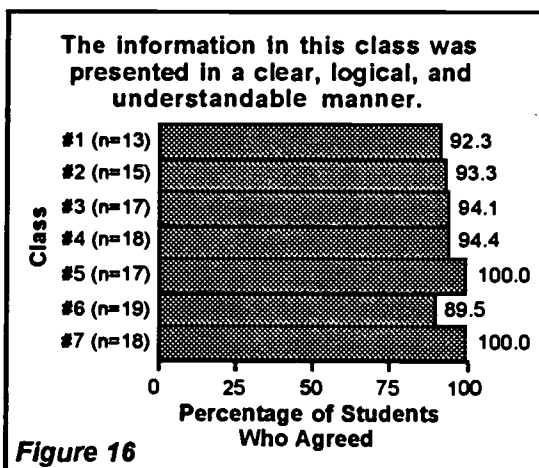
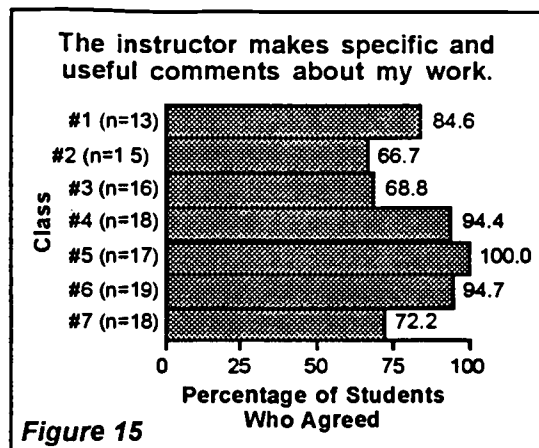
The instructors summarized course concepts to emphasize main points or ideas (Figure 14). Over 90% of the students (91.5%) agreed that their instructor practiced this teaching technique.





## Gave Specific and Useful Feedback

Generally, the students stated that their instructor offered them specific and useful comments to improve their work (Figure 15). The availability of a translator varied the results slightly, but overall students (83.6%) felt that the instructor's feedback was satisfactory and aided them to attain better performance.

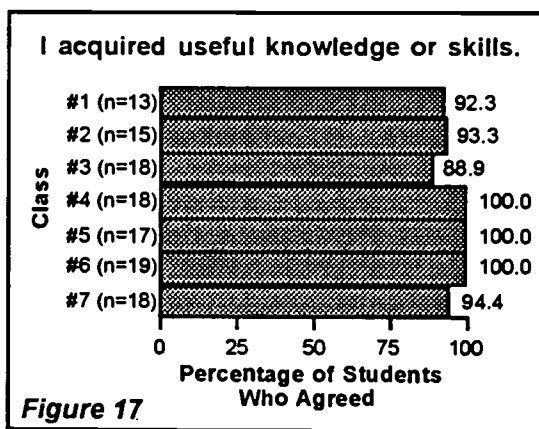


## Presented Concepts in a Clear and Logical Manner

Overall, the students (94.9%) stated that their instructor presented the concepts in a manner that was easy to follow and to comprehend (Figure 16). Congruent with student ratings previously stated, this positive evaluation illustrates the high teaching quality achieved by the instructors.

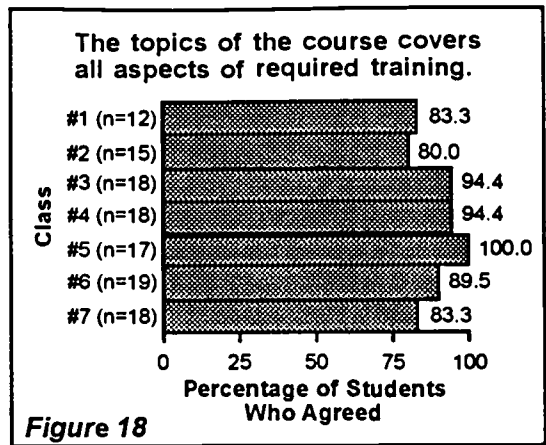
## Students Acquired Useful Knowledge

The students attested to the applicability of the material presented in the course (Figure 17). Approximately 95% of the students (95.8%) agreed that they had acquired valuable information and skills. The students' positive evaluation of the personal worth of the course reiterates the high regard students held for the instructors and the course overall.

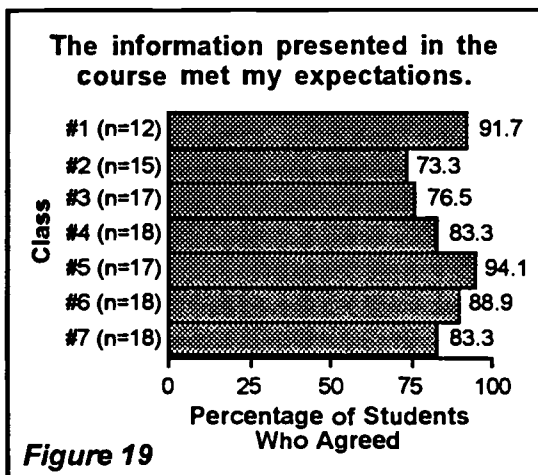


## The Course Met All Aspect of Students' Training Needs

Specifically, the information and skills gained by the students had directly fulfilled their training needs (Figure 18). The majority of the students (89.8%) affirmed their training requirements were fulfilled.



## Students' Perceptions: Course Content

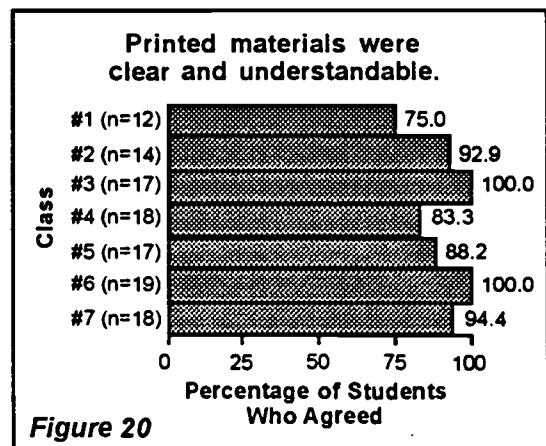


### Content Expectations

The students (84.3%) indicated that the content of the course met their expectations; see Figure 19. This positive evaluation reinforces the students' overall satisfaction with the course and successful achievement of the goals originally defined by the Ford grant, the EEP program, and the students.

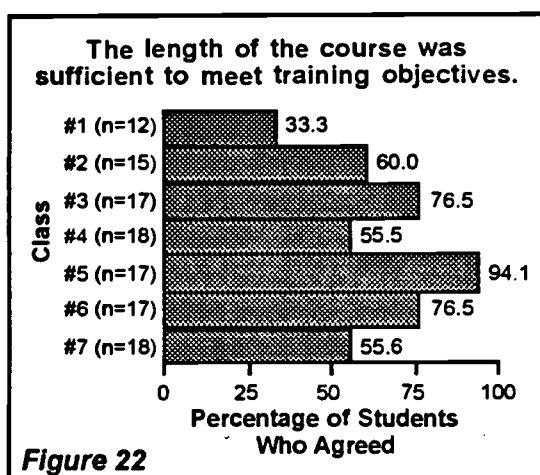
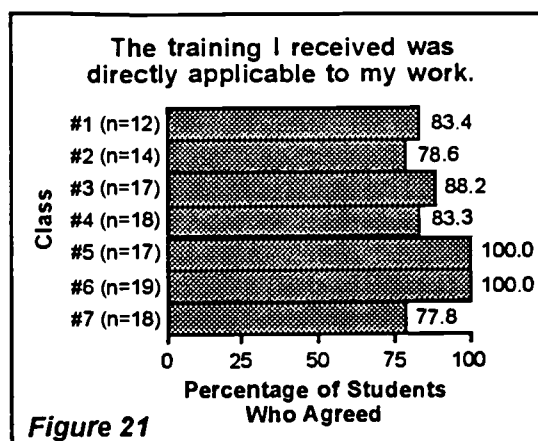
## Printed Materials

Even though most of the handouts and prepared materials were in English, 91.3% of the students were pleased with the clarity and understandability of the printed materials (Figure 20).



## Training Applicability

The courses were carefully selected to meet specific training needs of the students (Figure 21). Thus, one of the key constructs to be assessed in the evaluation was the courses' direct usefulness to the students' current work and career. The majority of the students (87.8%) agreed the training they received was pertinent and applicable. The students clearly expressed that this program goal was met.



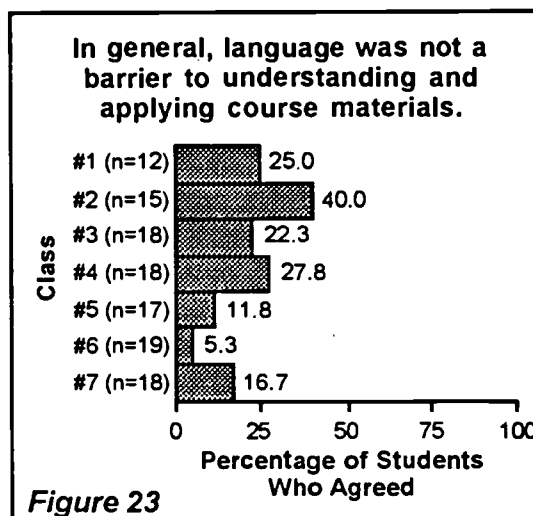
## Course Length

Most of the students reported that the length of the course was sufficient to meet their training needs (65.8% of the students either strongly agreed or agreed); see Figure 22.

## Students' Perceptions: The Environment

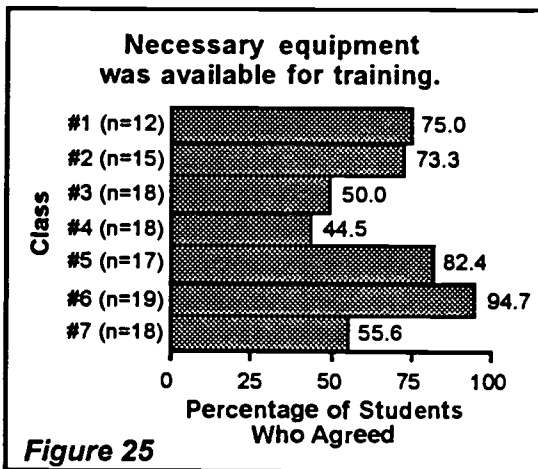
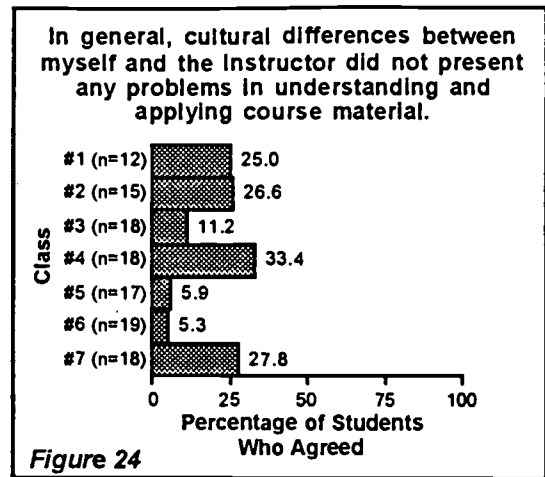
### Language Differences

The availability of a skilled translator affected this aspect of the program to some extent (Figure 23). In the four classes (class # 2, 4, 5, and 7) that had a translator available, 23.5% of the students felt that language differences did not hinder the learning of course materials. In the other three courses, only 16.3% of the respondents agreed.



## Cultural Differences

Similarly, the availability of a skilled translator influenced the students' perception about the affect of cultural differences on the understanding and the application of course materials (Figure 24). In the four classes (class # 2, 4, 5, and 7) that had a translator available, 23.5% of the students felt that cultural differences did not hinder the learning of course materials. In the other three courses, only 12.2% of the respondents agreed.



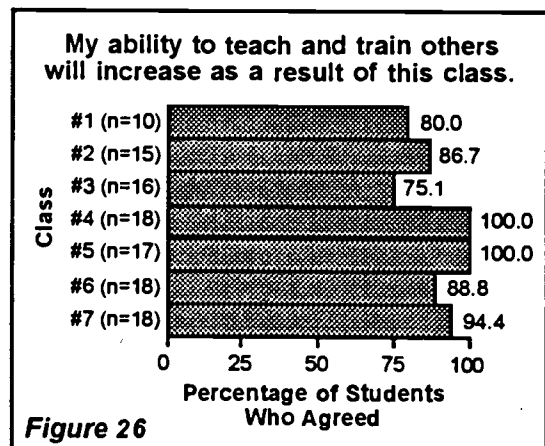
## Equipment Availability

Overall, most of the students expressed satisfaction with the availability of equipment to facilitate training (67.5% of the students reported either strongly agreed or agreed to this survey question); see Figure 25.

## Students' Perceptions: Course Impact

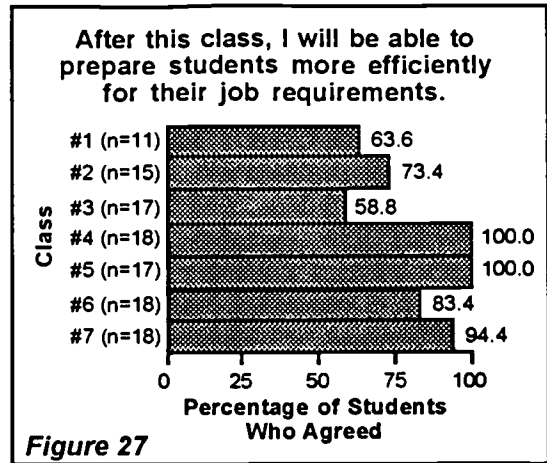
### Students' Ability to Teach and Train Others

Another main goal of the program was to train the students to become better instructors themselves (Figure 26). The students affirmed that this goal was successfully achieved. Approximately 90% (90.2%) stated that the course has increased their ability to teach and train others.



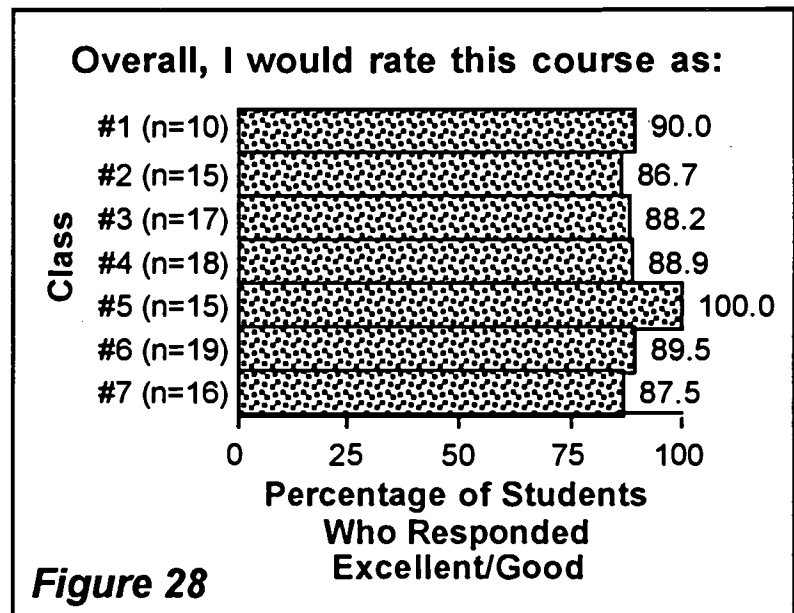
## Students' Ability to Prepare Others

The students stated that because they had completed the course they are better able to prepare others to meet job requirements (Figure 27). The majority of the students (83.3%) expressed that they are able to prepare their students more effectively and efficiently to satisfy job demands.



## Students' Perceptions: Overall Rating of the Course

Consistent with the highly positive responses given by the students throughout this report, 90.0% of the students reported that, overall, the course was excellent or good (see Figure 28).



# Course Knowledge: Pre- and Post-test Results

## Air Brake Systems and Hydraulic Systems

At the beginning of the course, Professor Lewis gave his students a pre-test to measure their knowledge of air brake systems. Then at the end of the course, to measure the amount of knowledge the students had acquired from course instruction, a post-test was given to the students. The results were impressive. The mean scores had improved drastically from a mean pre-test score of 17.2 to a mean post-test score of 30.0 (Table 2). A paired-sample t-test was conducted to test the statistical significance of the mean difference in pre-and post-test scores. The mean difference was highly significant as indicated by the p-value ( $p < .001$ ; see Table 3).

	Mean Score	Standard Deviation	Minimum	Maximum	Valid N
Pre-test	17.2	4.1	11.0	24.0	17.0
Post-test	30.0	6.2	22.0	42.0	18.0

**Table 2**

	Mean	Standard Deviation	SE of Mean
Pre-/Post-test			
Pre-test	17.2	4.1	1.0
Post-test	30.0	6.2	1.5
Paired Differences			
t-value = 8.00	df = 16	2-tail significance = .000	
95% CI (8.293,17.354)		12.8	2.1

Professor Lewis repeated the same procedures for the his Hydraulic Systems course and found comparable results. Mean scores increased from 35.4 at the pre-test to 50.9 at the post-test (Table 4). As shown in Table 5, the paired-sample t-test was significant ( $p < .0001$ ).

	Mean Score	Standard Deviation	Minimum	Maximum	Valid N
Pre-test	35.4	10.4	20.0	52.0	16.0
Post-test	50.9	9.4	39.0	64.0	18.0

**Table 4**

	Mean	Standard Deviation	SE of Mean
Pre-/Post-test			
Pre-test	35.4	10.4	2.6
Post-test	50.9	9.4	2.4
Paired Differences			
t-value = 9.75	df = 15	2-tail significance = .000	
95% CI (12.113,18.687)		15.5	1.6

## Introduction to Computer Numeric Control

For the Introduction to Computer Numeric Control course, the students' scores drastically improved from a mean pre-test score of 28.3 to a mean post-test score of 95.3 (Table 6). A paired-sample t-test was conducted to test the statistical significance of the mean difference in pre-and post-test scores. The mean difference was highly significant as indicated by the p-value ( $p < .001$ ; see Table 7).

<b>Computer Numeric Control</b>					
<b>Pre- &amp; Post-test Results</b>					
	Mean Score	Standard Deviation	Minimum	Maximum	Valid N
Pre-test	28.3	16.8	11.6	60.4	17.0
Post-test	95.3	8.9	64.0	100.0	17.0

**Table 6**

<b>Computer Numeric Control</b>			
T-test for Paired Samples			
	Mean	Standard Deviation	SE of Mean
<b>Pre-/Post-test</b>			
Number of pairs = 17	Correlation = .353	2-tail significance = .164	
Pre-test	28.3	16.8	4.1
Post-test	95.3	8.9	2.2
<b>Paired Differences</b>			
t-value = 17.23	df = 16	2-tail significance = .000	
95% CI (58.747,75.232)	67.0	16.0	3.9

**Table 7**

## Office Systems

Similar results were found for the Office Systems course. There were also impressive improvements: students' mean pre-test score was 27.2 and the mean post-test score climbed to 89.9 (Table 8). A paired samples t-test showed that the mean differences in pre- and post-test scores were highly significant ( $p < .001$ ; see Table 9). These results provide powerful and concrete evidence of the success of these four courses.

<b>Office Systems Pre- and Post- Test Results</b>					
	Mean Score	Standard Deviation	Minimum	Maximum	Valid N
Pre-test	27.2	29.1	0.0	82.0	17.0
Post-test	89.9	7.7	76.0	100.0	17.0

**Table 8**

<b>Office Systems</b>			
T-test for Paired Samples			
	Mean	Standard Deviation	SE of Mean
<b>Pre-/Post-test</b>			
Number of pairs = 17	Correlation = .319	2-tail significance = .212	
Pre-test	27.2	29.1	7.1
Post-test	89.9	7.7	1.9
<b>Paired Differences</b>			
t-value = 9.37	df = 16	2-tail significance = .000	
95% CI (48.512,76.900)	62.7	27.6	6.7

**Table 9**

## Evaluation Results: Instructors' Feedback

As stated earlier, SDCCD instructors were asked to provide comments on their experiences. Generally, the instructors found their experiences to be quite positive, and they indicated that they would gladly repeat the exchange. At the same time, they did suggest some important modifications to the courses and to the organizational and logistical operations for future programs. The instructors' comments are reproduced in Appendix C and summarized here.

### Course Duration and Logistics

The instructors varied on their satisfaction with the length of the course, five weeks of instruction. The instructor for course #1 felt that the length was sufficient to cover course material, however, others (instructors for course #3, #5, and #6) felt that the course length was too long and the course material could have been covered thoroughly in less time. Still, another instructor (the instructor for course #2) stated that the course length was too short and he had to teach extended days to cover the course objectives.

Instructors expressed difficulties and problems regarding the transportation of the equipment across the border into Mexico and also back into the U.S. The instructors recommended that more preparation and coordination time be allotted to assure the availability of needed equipment and materials and to assure the transportation of necessary equipment into Mexico. To resolve course objective and content ambiguities, a recommendation was made for instructors and students to exchange dialogue prior to the start of the course.



## **Language Proficiency and Translation**

All instructors said their Spanish language abilities, particularly in technical areas, improved. They also said skilled translation was an immense benefit to them and made the courses much more accessible to the students.

## **Cultural Understanding**

All instructors strongly agreed that their understanding of Mexican culture and traditions had grown as a result of this experience. They indicated a greater understanding of technical training delivery systems, as well as the barriers to and opportunities for modernization in Mexico. Cultural understanding was a highly prized outcome for the Educators Exchange Program and a valued goal of the Ford Foundation.

# Summary

As indicated throughout this report, program participants were very pleased with the project. The clear majority of participants found the courses to be timely, relevant, helpful, and useful in improving their understanding of technological change and their ability to communicate this new learning to students. Most reacted with tremendous pride that they were able to participate in this incipient innovative program and the overwhelming majority indicated that they would participate again. As expected with a bi-national exchange program, the greatest difficulties between the students and their instructors was that of language and cultural differences. Other key areas of concern were equipment, course duration, room conditions, and translation. Their concerns paralleled those of the SDCCD faculty. The SDCCD faculty indicated that greater coordination was needed to resolve certain logistic and customs problems with the necessary equipment. Although the instructors' Spanish proficiency had improved, they felt strongly that having a skilled translator on a consistent basis was critical to the success of the course and allowed them greater flexibility in dealing with course material rather than language difficulties. Overall program participants, CECATI officials, and SDCCD faculty judged the program a resounding success in accomplishing important goals.

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# Preliminary Planning for the Educators Exchange Program Spring 1997

The Spring 1997 Educators Exchange Program consisted of six courses conducted over a one week period. In preparation for the Spring 1997 EEP, a series of meetings and workshops were conducted in an effort to prepare for the program. In consultation with CECATI officials and SDCCD faculty and administration, work plans were put together, and preliminary training plans were developed. Faculty and staff visited various training sites where training sessions were conducted. The following is a brief summary of the 6 different events (workshops/conferences, orientations, and work plans) that were conducted to plan and implement this phase of the 1997 Educators Exchange Program.

On August 30, 1996, San Diego City College hosted an all-day **SDCCD/CECATI Joint Workshop**. The Workshop was attended by SDCCD faculty and staff and CECATI officials. The purpose of the workshop was to designate central contacts, select training areas, sites, and site coordinators, and propose a calendar of planning events. Hosted by Chancellor Gallego, San Diego City College President Jerome Hunter, Vice Chancellor Allen Brooks, and several deans responsible for vocational training, this workshop provided an overview of the planned program for Spring 1997.

The agenda for the day began with preliminary planning of selected training areas, followed by a tour of San Diego City College and various training sites at San Diego Miramar College, Naval Training Center, Skills Center, and the Educational Cultural Center. The agenda for the workshop ended with final planning and program agreements.

A major outcome of the Joint Workshop was the designation of two central contacts at the beginning of the Workshop. The two designees were Chancellor

Augustine Gallego, SDCCD, and Victor Garcia Gama, CECATI. Based on an analysis of local training needs by CECATI officials, six training areas were selected, they include: fire science, police science, English as a Second Language (ESL), aviation maintenance, Computer Numeric Control (CNC), and electronics. A one week training schedule per area was suggested. A calendar of planning events was proposed as well. The calendar of events included: curriculum development, reserve training sites, faculty orientations by site coordinators, CECATI visits by SDCCD training faculty, and, CECATI students visit to City College.

Finally, the workshop ended with a discussion of several "open" issues. These "open" issues include a fifth training area, transportation, the number of CECATI participants per training area, equipment and materials, and interpreters.

A **SDCCD/CECATI Work Plan** was developed and planned to extend from January until May of 1997. Following the EEP-97 planning meeting at City College, Chancellor Gallego and Vice Chancellor Allen Brooks, together with the program planners, developed this SDCCD/CECATI Work Plan. In addition to Chancellor Gallego and Victor Garcia Gama, central contacts were designated from San Diego City College, Miramar College, the Naval Training Center, and Center City Adult Education Center. Topics for discussion included transportation, selecting CECATI faculty for training in certain areas, and hiring translators for scheduled trips and training.

In January 1997, the Work plan was made final by Chancellor Gallego and Victor G. Gama. They reviewed the work plan with SDCCD site coordinators and designated training areas to specific site coordinators and faculty members. Training dates were scheduled with site coordinators reserving facilities and identifying one instructor per training area. In addition, each faculty member developed a preliminary training plan. In February preparations continued for visits in March by the Chancellor. Communication with Victor Gamma was also maintained.

In March 1997 Chancellor Gallego, Vice Chancellor Allen Brooks, Dean Armando Abina, and Rafael Alvarez conducted meetings with CECATI officials in Mexicali (March 7) and in Ensenada (March 21) to visit CECATI sites. At these meetings several areas were discussed, including evaluation, training plans, and further technical assistance visits. Also discussed at the meetings were one-week training seminars in five areas and post training evaluations to be conducted in April of 1997.

On Friday March 7, 1997- a **SDCCD/CECATI Conference** was held from 10:00 a.m.-3:45 p.m. in Mexicali, Mexico. The main purpose of the conference was to tour facilities of Mexican counterparts and discuss April training plans for specific areas, including: Computer Numeric Control (CNC), Electronics, Police Science, Fire Science, and English as a Second Language (ESL).

The Agenda for the day began with a tour of CECATI site No.84. Following the tour, a working group comprising 6 CECATI/CBTIS (vocational training centers) and 9 CETIS directors convened. Finally, the day concluded with a tour of CBTIS No.21 in Mexicali.

Key personnel attending included 13 participants from the SDCCD and approximately 27 from the CECATI. Work groups met and discussed CECATI'S training needs and the number of faculty CECATI needed to attend training at SDCCD sites. Following a reception and tour of CECATI No.84, a working group comprising 6 CECATI and 9 CETIS/CBTIS directors met for a discussion concerning specific training needs. Agreements were made for specific training areas (electronics Computer Numeric Control, English as a Second Language, police and fire science). Approximately 20-25 CETIS faculty were designated for each training area. Finally, a reception and tour of CBTIS No.21 were conducted. Issues which were left "open" for discussion include logistics and lodging.

On Friday March 21, 1997, a **SDCCD/CECATI Conference** was held in Ensenada, Mexico. The main purpose of the conference was to visit facilities of Mexican

counterparts and discuss April training plans for aviation maintenance and English as a Second Language (ESL).

The agenda for the day began with a tour of Centro de Estudio Tecnológico del Mar (CET Mar), followed by a reception with Municipal President Montenegro. Following the reception with Montenegro, a meeting and tour of CECATI No. 83 were conducted where final agreements were made for selected training areas.

Key personnel from the SDCCD and CECATI in attendance at the conference included 9 participants from the SDCCD, and approximately 18 from CECATI. All participants were invited to attend a reception and tour of CET Mar. Following the tour, Municipal President Manuel Montenegro and other members of his cabinet, including the police chief, fire chief, and deputy mayor, held a reception for the participants. Participants then held a working group meeting at CECATI No. 83. At the meeting, final agreements were made in the following areas: the number of CETIS instructors to be designated in each of six training areas; options for lodging; and transportation to and from sites.

Finally, additional internships, sabbaticals and educator exchange opportunities were suggested and discussed. Some of the suggestions included: a 1-year assignment in electronics for 2 faculty from the SDCCD in Mexico; exploring additional opportunities for SDCCD faculty in Oaxaca Mexico for tourism and anthropology; CECATI students from Tijuana to visit City College's electronics program; and, finally, Director Hector Montenegro proposed a cultural exchange for the SDCCD faculty. This cultural exchange would require SDCCD faculty to spend one month in Tijuana learning the language and culture. Mexican faculty would also receive the same opportunity at the SDCCD.

On April 1, 1997 a final planning meeting was held to discuss decisions to be made in specific areas. The **April Discussion/Decision Meeting** was convened by Chancellor Gallego and Vice Chancellor Brooks in the Chancellor's conference room.



At this meeting instructors were invited to provide comments about the work plan and address last minute needs. Stipends for participating faculty were discussed and clarified. The purpose of this phase of the project was to :

- 1) provide CETIS instructors with hands-on experience in the use of technology in the classroom;
- 2) provide SDCCD instructors with good neighbor exchange;
- 3) allow SDCCD faculty to learn more about issues facing a third world country, and the importance of sharing these issues with students

The importance of pre and post training evaluations were discussed, as were travel and accommodations, and the availability of translators. Finally, faculty were given instructions on how to fill out schedules for their subject areas, and how to submit requests for supplies, books, and equipment.

On Monday April 21, 1997, San Diego City College, hosted a **SDCCD/CECATI Orientation**. The purpose of this orientation was to designate faculty members as responsible parties for specific programs at specific sites. Five trainees were designated per program or site. The orientation began on Monday April 21, 1997, courses were offered from Monday, April 21- Friday April 25.

Each faculty member was given a detailed chart showing the training schedule and classes for the week of April 21- April 25. Each course was outlined in detail for faculty and staff. In addition, course objectives were listed, as were methods of instruction and appropriate texts and supplies. Faculty and staff were given information packets which included training plans and detailed maps. Finally, emergency procedures were covered.

All of the planning and coordination meetings conducted over a nine month period culminated in the EEP-97 training conducted in April, 1997. The evaluation of this program is included in this report.

# Educators Exchange Program Spring 1997

In the spring of 1997, an Educators Exchange Program, smaller in scale than EEP-96, was conducted in San Diego at various SDCCD facilities. The Spring EEP-97 program consisted of six one-week courses:

- Course #1- Electronics taught at City College by Professor Richards.
- Course #2- Introduction to Computer Numeric Control taught at City College by Professor Bollinger.
- Course #3- Sheet Metal taught at Miramar College by Professor Chlapecka.
- Course #4- English as a Second Language taught at the Educational Cultural Center by Professor Beauparlant and Professor Bitterlin.
- Course #5- Police Science taught at Miramar College by Professor Lickiss.
- Course #6- Fire Technology taught at the Naval Training Center by Professor MacFarlane and Professor Cooke.

The same measurement instruments used to assess EEP-96 were also used to evaluate this program. The Spring EEP-97 findings parallel the results of EEP-96. Similarities include the overwhelming positive evaluation given by the students. Differences between EEP-96 and the Spring EEP-97 were also found in the students' demographic information

The students completed the Student Evaluation (see Appendix A). The first section of this questionnaire asks participants for demographic information focusing on gender, age, disability, Mexican state of origin, enrollment purpose, English proficiency, educational history and attainment, and family background.

The students consisted of 25 CECATI instructors who came to the program with many years of experience, bringing with them extensive knowledge and background from both instructional and industrial settings. The students ranged from 17 to 48 years of age (mean age = 30 years; standard deviation = 9.3 years). Compared to EEP-96 (mean age = 37 years), students of the Spring EEP-97 program were slightly younger in age. There were also more male students in the Spring EEP-

97 (male students = 88%; female students = 12%) than in the earlier program (EEP-96: male students = 60.5%; female students = 39.5%). None of the students indicated any sort of physical or learning disability. In the Spring EEP-97 program, the majority of the students came from Baja California, Mexico (17 of the 25 students or 68%). The other eight students came from various states throughout Mexico.

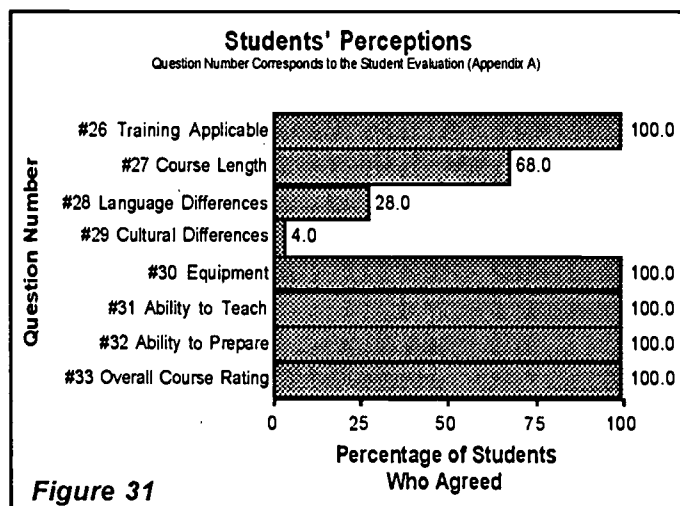
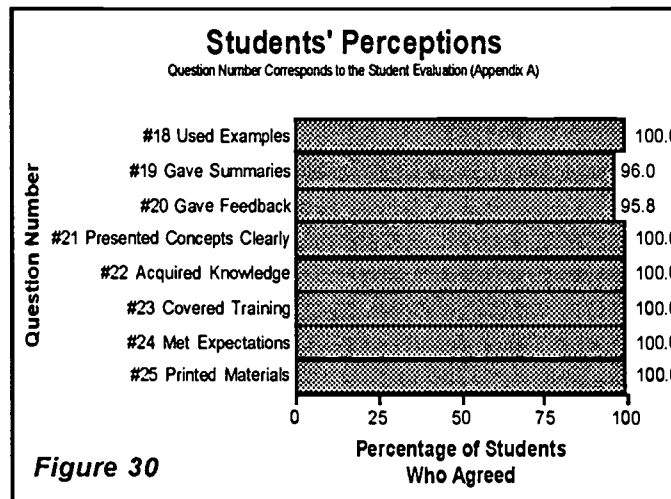
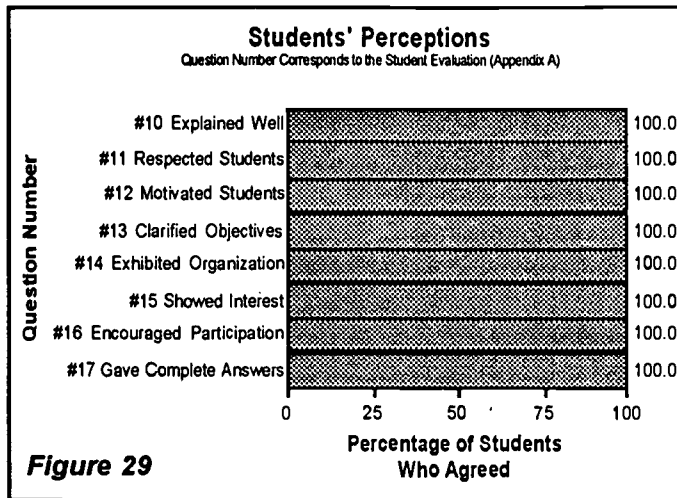
Similar to EEP-96, 80% of the students stated that their primary reason for enrolling in the courses was to improve their ability to perform at their present job. To evaluate English proficiency, students were asked to rate their own English skills before and after the course. Consistent with EEP-96, students reported tremendous improvements in their English proficiency. Based on these self-reported rating, a paired sample t-test was conducted to determine the statistical significance of the mean difference in pre- and post-course English proficiency. The t-test results confirmed a significant difference between pre- and post-course ratings at the .0001 level.

Participants of the Spring EEP-97 differed from earlier participants in educational history and attainment. For the majority of the students, a technical degree or certificate was the highest degree or certificate that they had earned (n=19; **technical = 47.4%**; preparatory = 26.3%; secondary = 10.5%; other = 15.8%). Students indicated that they had completed between 3 to 19 years of education with a mean of 13.2 years (standard deviation = 3.9; mode = 12.0). Participants also provided information about their fathers' occupation (n = 24). The occupational categories specified by the students were business proprietor (20.8%), professional (16.7%), technical tradesman (12.5%), farm worker (8.3%), office worker (4.2%), and other (37.5%).

The second part of the Student Evaluation asks participants to evaluate their instructors, their instructors' teaching practices, course content, the environment, and course impact. The students' responses are summarized in Figures 29 to 31 (page 58). Overall, the students gave the program highly positive ratings. Most of the

students either strongly agreed or agreed with the positive statements regarding instructor and program quality items. However, two areas, language and cultural differences, presented difficulties for the students. As expected from a bi-national exchange program, students stated that differences in language and culture between themselves and their instructors created some barriers to learning course material. Despite these barriers, students indicated overwhelming satisfaction with the program and they stated that they had received immense benefits from participating. Moreover, the students left the program satisfied that their expectations had been met and their goals accomplished. These positive outcomes are reiterated by the instructors as well. Both EEP-96 and Spring EEP-97 confirm the success of the exchange program in accomplishing key goals.

# Summary of Students' Perceptions: Figures 29 to 31 \*



\* n = 25 for all the questions except question #20 (n = 24), #25 (n = 24), #31 (n = 22), and #32 (n = 22).

# Appendix A

## Student Evaluation

### Educators Exchange Project

#### Participant Evaluation

CECATI

Ford Foundation

SDCCD

Your opinions and feedback are important. Your responses and comments on this questionnaire will tell us whether this course met your needs and provided you with new skills and knowledge, and the ability to apply these new skills. The information you provide us can help us to improve our training and preparation of other students. Be assured that your responses will remain confidential.

Please take a few minutes to complete this questionnaire. For each of the questions, please circle the one response you feel best describes your opinion or belief.

Thank you.

Course Title: \_\_\_\_\_

Instructor: \_\_\_\_\_

Location: \_\_\_\_\_

### Background Questions

1. What is your age? \_\_\_\_\_
2. Are you Male or Female? (Circle Correct Response)
3. What state of the Republic of Mexico are you from? \_\_\_\_\_
- 4A. Language proficiency Before the Course:  
 Fair                       Good                       Excellent
- 4B. Language proficiency After the Course:  
 Fair                       Good                       Excellent

5. Please circle the letter that best describes your reason for attending this course
- A. To prepare for employment in a new career.
  - B. To prepare for job change or advancement in my same career.
  - C. To improve my ability to perform at my present job.
  - D. To improve my skills, but not necessarily for employment reasons.
  - E. To achieve a purpose not listed above.

6. Please indicate the highest degree or certificate you have earned. \_\_\_\_\_

7. How many years of education have you completed? \_\_\_\_\_

8. Do you have a physical disability?  Yes  No

9. What best describes your Father's occupation?

- |  |                                       |
|--|---------------------------------------|
| <input type="checkbox"/> Professional        | <input type="checkbox"/> Sales        |
| <input type="checkbox"/> Technical           | <input type="checkbox"/> Farming      |
| <input type="checkbox"/> Craftsman           | <input type="checkbox"/> Manager      |
| <input type="checkbox"/> Business Proprietor | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Clerical            |                                       |

<b>Feedback About Your Instructor</b>	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
---------------------------------------	----------------	-------	---------	----------	-------------------

10. The instructor explains the course material well.	1	2	3	4	5
11. The instructor treats the students with respect and courtesy.	1	2	3	4	5
12. The instructor encourages students, including those experiencing difficulty.	1	2	3	4	5
13. From the beginning, the instructor made the requirements and objectives of this course clear.	1	2	3	4	5
14. The instructor consistently demonstrates strong organizational skills.	1	2	3	4	5
15. The instructor shows interest and enthusiasm in conducting the course.	1	2	3	4	5
16. In this class, I feel comfortable participating and asking questions.	1	2	3	4	5



**Feedback About Your Instructor**  
(Continued)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
17. The instructor provided clear and complete answers to questions raised in class.	1	2	3	4	5
18. The instructor used examples and illustrations to teach the course that helped me to better understand new concepts and ideas.	1	2	3	4	5
19. The instructor provided clear summaries of the course content.	1	2	3	4	5
20. The instructor makes specific, useful comments about my work.	1	2	3	4	5
21. The information in this class was presented in a clear, logical, and understandable manner.	1	2	3	4	5
22. I acquired useful knowledge or skills.	1	2	3	4	5
23. The topic of the course covers all aspects of required training.	1	2	3	4	5

**Course Content**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24. The information presented in this course met my expectations.	1	2	3	4	5
25. Printed materials were clear and understandable.	1	2	3	4	5
26. The training I received was directly applicable to my work and career.	1	2	3	4	5
27. The length of the course was sufficient to meet training objectives.	1	2	3	4	5



**Process and Environment**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
----------------	-------	---------	----------	-------------------

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 28. In general, language was not a barrier to understanding and applying course material.  | 1 | 2 | 3 | 4 | 5 |
| 29. In general, cultural differences between myself and the instructor did not present any problems in understanding and applying course material. | 1 | 2 | 3 | 4 | 5 |
| 30. Necessary equipment was available.   | 1 | 2 | 3 | 4 | 5 |

**Impact of the Course**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
----------------	-------	---------	----------	-------------------

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 31. My ability to teach and train others will increase as a result of this class.                      | 1 | 2 | 3 | 4 | 5 |
| 32. After this course, I will be able to prepare students more efficiently for their job requirements. | 1 | 2 | 3 | 4 | 5 |

**Overall Rating**

Excellent	Good	Neutral	Poor	Very Poor
-----------	------	---------	------	-----------

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 33. Overall, I would rate this course as: | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

**Comments**

34. What are the best things about this course?
35. How can the course be improved?
36. What was the most valuable thing you learned?
37. What was the most difficult aspect of this course?
38. Additional comments you wish to provide?

# Appendix B

## Instructor Evaluation

### Educators Exchange Project II 1996

#### Instructor Evaluation

SDCCD

Ford Foundation

CECATI

Your opinions and feedback are important. Your responses and comments on this questionnaire will tell us whether this course met the needs of your students and provided you with new skills and knowledge. Also, any comments or observations you can make on the local arrangements, logistics, transportation, materials, and instructional support will help us to make improvements in the program. Thank you.

1. Were you able to achieve your training objectives? Why or why not?
2. Was the length of the training program adequate to meet the course objectives? Provide any additional comments as necessary.
3. What could have or should have been done to improve the program from your perspective as a classroom instructor?
4. Please indicate your Spanish language proficiency before and after the course.
  - 4a. Speaking skills BEFORE the course:  
A. Excellent      B. Good      C. Fair      D. Poor
  - 4b. Speaking skills AFTER the course:  
A. Excellent      B. Good      C. Fair      D. Poor

- 4c. Writing skills BEFORE the course:
- A. Excellent      B. Good      C. Fair      D. Poor
- 4d. Writing skills AFTER the course:
- A. Excellent      B. Good      C. Fair      D. Poor
- 4e. Reading skills BEFORE the course:
- A. Excellent      B. Good      C. Fair      D. Poor
- 4f. Reading skills AFTER the course:
- A. Excellent      B. Good      C. Fair      D. Poor
- 4g. Comprehension (listening) skills BEFORE the course:
- A. Excellent      B. Good      C. Fair      D. Poor
- 4h. Comprehension (listening) skills AFTER the course:
- A. Excellent      B. Good      C. Fair      D. Poor
5. During your stay in Mexico, would you say that your knowledge of local customs and traditions:
- A. Increased      B. Decreased      C. Stayed the same
6. During your stay in Mexico, would you say that your knowledge of training delivery systems in Mexico:
- A. Increased      B. Decreased      C. Stayed the same
7. During your stay in Mexico, would you say that your knowledge of issues and challenges that confront training delivery systems in Mexico:
- A. Increased      B. Decreased      C. Stayed the same

8. What were your living arrangements while in Mexico? Were they satisfactory? If improvements are needed for you to teach better, what ought to be done to improve living arrangements in the future?
9. Did you have unmet transportation needs? Please describe.
10. Did you have problems obtaining necessary equipment, supplies, tools, or other instructional materials? What could be done to improve the readiness and availability of instructional materials?
11. Did you have logistical problems transporting needed equipment or supplies for use while in Mexico? What could be done in your view to improve this?
12. For instructors that participated in prior years, have there been noticeable improvements in the program from a logistical and coordination standpoint?
13. Please tell us any other issues or suggestions you might have that would help the Educators Exchange Program to be more successful.
14. Describe other activities you did while in Mexico other than teaching such as visiting with students, touring factories or other schools, attending cultural events that helped you to gain further insight into Mexico.
15. Would you participate again? Please provide additional comments as to why or why not and any other observations about how to improve the program.

Course Title \_\_\_\_\_

Thank you for completing the survey. If you conducted any kind of informal classroom based research such as pre-post tests of course content, please forward your data to me so I can analyze it and put it into our evaluation report. Thank you again for your help.

Bill Armstrong  
Research and Planning

# Appendix C

## Responses to the Instructor Evaluation

### EEP-96

Please refer to the following courses and instructors when reading the responses to the Instructor Evaluation:

- Course #1- Introduction to Technical Ceramics taught by Mr. John Laver, a ceramics expert from San Diego.
- Course #2- Air Brake Systems taught by Professor Jim Lewis from Miramar College.
- Course #3- Textiles taught by Ms. Rosa Shook from Continuing Education.
- Course #4- Introduction to Computer Numeric Control (CAD/CAM) taught by Professor Jack Bollinger from City College.
- Course #5- Office Systems taught by Ms. Nancy Seamster from Continuing Education.
- Course #6- English as a Second Language taught by Professor Mary Beauparlant from Continuing Education.
- Course #7- Hydraulic Systems also taught by Professor Jim Lewis.

**Question 1: Were you able to achieve your training objectives?  
Why or why not?**

**Instructor for Course #1:**

No; the students and the program were not at all what I expected. As opposed to the other CECATI teachers from all over Mexico, my students were mostly business owners from Dolores Hidalgo. The program presented to them to encourage them to take the course was not my program at all, but an area of ceramics I know nothing about. In order to give them something useful, I had to invent an entirely new program on the spot.

**Instructor for Course #2 and #7:**

Yes. Why: (1) By selecting areas which were not dependent on specialized equipment needs other than training materials which could be transported from San Diego, I was able to succeed in meeting the course objectives; (2) Having appropriate translated materials, especially for the hydraulics class. It was invaluable; (3) Motivated students; (4) Availability of a marvelous translator who was willing to assist in preparing materials for class was a big plus.

**Instructor for Course #3:**

Yes, because every subject that I presented to the instructors was welcomed and practiced into a project. At the end of the course they had developed a portfolio of new sewing techniques and ideas to promote student retention.

**Instructor for Course #4:**

We were not able to achieve all our goals, we could not overcome the problems we had with the CNC machines provided. The solution to this problem was to cancel the machining part of the course. This in itself was not devastating, we used the extra time to work on the CAD/CAM. In the future we may look at excluding the machining part of the course. This was my second trip and both times we had the same problems with the machine tools. On the first trip, we solved the problems; on the second trip, there were even more problems which caused me to make the decision to cancel that part of the course. The students were just as happy to cancel that part of the course.

**Instructor for Course #5:**

My training objectives proved to be realistic and appropriate for the time, equipment; and facility that was available. Those objectives were to teach "survival" DOS and Windows operating systems, complete a solid beginner level Word 6.0 course, teach a beginning level Excel that included OLE, introduce PowerPoint as a presentation medium for the classroom, demonstrate and have the students participate in training techniques, and encourage communication and support among the participants.

**Instructor for Course #6:**

Yes, I was able to achieve my training objectives. The students were most responsive to the course outline that was submitted and they were enthused with the ESL methodologies, techniques, and activities that were presented.

**Question 2: Was the length of the training program adequate to meet the course objectives? Provide any additional comments as necessary.**

**Instructor for Course #1:**

Yes, time was adequate.

**Instructor for Course #2 and #7:**

Length (3 weeks) was adequate, but only by teaching extended days. Most of my material is lecture (out of 15 days only two and a half were used for lab) and 6 hours a day is too long for both the students and instructor.

**Instructor for Course #3:**

The course was designed in four modules. Each module took one week to complete. At the end of the fourth week most instructors completed the objectives of each module and presented their finished product.

**Instructor for Course #4:**

I think that the length of the training was adequate especially due to the fact that we canceled the machining part of the course (see question 1), also we had to disassemble the computer laboratory two days early because of our problems with customs.

I think it would be wise in the future to exclude the machining part of the course. If we could have solved the problems with the machining tools, we would have been squeezed for time to include that module.

**Instructor for Course #5:**

Four weeks proved to be the appropriate time for an ambitious program of this type. Had the students been required to spend a longer time away from their homes, their stress level would have increased to a point that would have affected the success of the program.

**Instructor for Course #6:**

The training could have been accomplished in three weeks, thirty hours a week or four weeks with twenty five hours a week. I felt a six hour day with no lunch and hot weather was too long for the students.

**Question 3: What could have or should have been done to improve the program from your perspective as a classroom instructor?**

**Instructor for Course #1:**

Students could have been screened as to a general level of knowledge of the intended course before the trip down. Generally, an interchange between the students and the instructor prior to the course.

**Instructor for Course #2 and #7:**

Maximum of four hours of class per day for lecture. Better accommodations and food for the students. All my students reported illnesses related to the food at Days Inn.

**Instructor for Course #3:**

To make sure that every piece of equipment was in working condition before the course begins. To be more specific, there were not enough sewing machines and pressing equipment for the needs of the course.

**Instructor for Course #4:**

This year the program went much smoother than in the past, but there are still things that could be improved upon.

The weather was much milder in Celaya this time, but it was still very hot in the computer room. We did have an air conditioner, but it acted more as a fan than a cooling unit, the students made comments about this quite often.



As on the first trip we didn't have curtains for the windows, this required the host to tape construction paper on all the windows. It became a daily ritual of taping the paper that fell down during the night. There should be curtains that open and close so that the incoming light can be regulated for the situation at hand.

I took almost all the equipment with me that I would need as an instructor, this helped tremendously. I highly recommend this for the future.

**Instructor for Course #5:**

If I were to do this again, I would take a video camera to film student presentations. As part of the course, I'd ask students to spend some time each day developing a journal about their experiences.

**Instructor for Course #6:**

There needs to be better communication between Mexico, Stadium Plaza, and the teacher trainers. It wasn't until I got to Guanajuato that I was informed that my class needed to meet 120 hours.

**Question 4: Please indicate your Spanish language proficiency before and after the course. (Answer choices: excellent, good, fair, or poor)**

Instructor	Speaking Skills		Writing Skills		Reading Skills		Comprehension	
	<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>	<i>Before</i>	<i>After</i>
<b>Instructor #1</b>	Good	Good	Good	Good	Good	Good	Poor	Fair
<b>Instructor #2/#7</b>	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Good
<b>Instructor #3</b>	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
<b>Instructor #4</b>	Poor	Fair/Poor	Poor	Fair/Poor	Poor	Fair/Poor	Poor	Fair/Poor
<b>Instructor #5</b>	Poor	Fair	Poor	Fair	Poor	Fair	Poor	Fair
<b>Instructor #6</b>	Good	Good	Fair	Fair	Good	Good	Good	Good

**Question 5: During your stay in Mexico, would you say that your knowledge of local customs and traditions: increased, decreased, or stayed the same.**

<b>Instructor #</b>	<b>Knowledge of Local Customs and Traditions</b>
<b>Instructor #1</b>	Increased
<b>Instructor #2/#7</b>	Increased
<b>Instructor #3</b>	Increased
<b>Instructor #4</b>	Increased
<b>Instructor #5</b>	Increased
<b>Instructor #6</b>	Increased

**Question 6: During your stay in Mexico, would you say that your knowledge of training delivery systems in Mexico: increased, decreased, or stayed the same.**

<b>Instructor #</b>	<b>Knowledge of Training Delivery Systems in Mexico</b>
<b>Instructor #1</b>	Increased
<b>Instructor #2/#7</b>	Increased
<b>Instructor #3</b>	Increased
<b>Instructor #4</b>	Increased
<b>Instructor #5</b>	Increased
<b>Instructor #6</b>	Increased

**Question 7: During your stay in Mexico, would you say that your knowledge of issues and challenges that confront training delivery systems in Mexico: increased, decreased, or stayed the same.**

<b>Instructor</b>	<b>Knowledge of Issues and Challenges that Confront Training Delivery Systems in Mexico</b>
<b>Instructor #1</b>	Increased
<b>Instructor #2/#7</b>	Increased
<b>Instructor #3</b>	Increased
<b>Instructor #4</b>	Increased
<b>Instructor #5</b>	Increased
<b>Instructor #6</b>	Increased

**Question 8: What were your living arrangements while in Mexico? Were they satisfactory? If improvements are needed for you to teach better, what ought to be done to improve living arrangements in the future?**

**Instructor for Course #1:**

Hotel Compana, in Dolores Hidalgo. There was no laundry service available at this hotel. All my laundry was done at the hotel in Celaya on weekends or by me in my room.

**Instructor for Course #2 and #7:**

Celaya Plaza Hotel. Good Hotel, but in three weeks the menu was boring. I bought a 100 watt light bulb to prep and grade evaluative materials by, but other than that conditions were satisfactory.

**Instructor for Course #3:**

I stayed in a hotel. The management of the hotel did everything possible to make my stay comfortable. I have no complaints.

**Instructor for Course #4:**

The living arrangements were wonderful. As anyone who travels knows it is very important to be as comfortable as possible when you are working away from home (especially for almost five weeks). The Celaya Plaza made this much easier. The people at this hotel made us feel at home and the accommodations were excellent. I would suggest strongly that in the future this hotel would be considered as the place to stay in Celaya.

**Instructor for Course #5:**

We, all the instructors, elected to stay in a hotel. The hotel was lovely and most satisfactory. I can't think of anything that could have been better.

**Instructor for Course #6:**

My living arrangements were excellent. The staff at the Celaya Plaza was most cordial, the rooms were clean, the grounds were beautiful, and the restaurant had an excellent menu.

**Question 9: Did you have unmet transportation needs? Please describe.**

**Instructors for Course #1 through Course #7:**

I had no unmet transportation needs.

**Question 10: Did you have problems obtaining necessary equipment, supplies, tools, or other instructional materials? What could be done to improve the readiness and availability of instructional materials?**

**Instructor for Course #1:**

Supplies and tools for my invented course arrived fairly quickly after they were requested. I kept my needs very basic. Students were very helpful in their donations of supplies. Books that I could have used for this course were sent Fed Ex on July 3rd from my company to my hotel. They are still (as of 8/20/96) being held in customs in Toluca despite Fed Ex- help from Mexico to request their return to the USA.

**Instructor for Course #2 and #7:**

The demonstration brake board supplied was usable, but just barely. I could have used a couple of days to prepare/coordinate equipment for the class once I arrived in Mexico.

**Instructor for Course #3:**

Tools and supplies were provided. Some sewing machines were repaired during the course and some other machines were beyond repair. Such equipment should have been tested, repaired, or replaced before the course started.

**Instructor for Course #4:**

This was not a problem except for the lack of curtains for the laboratory windows and the missing materials for the CNC machines. Additionally, I wasn't sure that I had a translator until the first day of class.

**Instructor for Course #5:**

I experienced no problems in this area.

**Instructor for Course #6:**

I had all the necessary equipment and supplies that I requested. Having a good quality copy machine would have improved the quality of our copies.

For future reference, copying in Mexico is a lot cheaper than in the States. A copy in Mexico costs about 1.5 American cents.

**Question 11: Did you have logistical problems transporting needed equipment or supplies for use while in Mexico? What could be done in your view to improve this?**

**Instructor for Course #1:**

No.

**Instructor for Course #2 and #7:**

The materials shipped UPS from San Diego before I left for Mexico didn't arrive until almost 4 weeks later. Next time if I can't pack it, it can not be counted on.

### **Instructor for Course #3:**

It took 48 hours after my arrival in Mexico to get a box containing two sewing machines and instructional supplies due to lack of communication between airport officials.

### **Instructor for Course #4:**

This area needs some real work. When we arrived in Leon I was the one who got the red light at the inspection point. When the Mexican Customs Agents saw all the things I was bringing in we were in trouble. There were discussions of confiscation and at one point even smuggling. I did not like these discussions at all being that I had brought many of the things from my own program in San Diego that was needed when I got back home. This problem cost us almost all the time we had built in for preparing the facility in advance, not to mention the uncertainty of losing our supplies. Nancy and I spent many hours in the Leon airport waiting for some decision by the authorities.

Before we do this again someone should be assigned the task of contacting the Mexican Embassy and finding out **EXACTLY** what paperwork has to be completed and how and to make sure it is done correctly before anyone gets on a airplane to leave San Diego. This problem cannot be ignored on future trips. This problem could have resulted in the cancellation of a course, the loss of all the supplies (which would have caused a severe problem to my program back in San Diego), and possible jail time for someone in another country.

After we got all the problems taken care of getting the equipment into Mexico, we were still not sure how to get everything back out. This problem caused a good deal of concern and worry that was neither needed or necessary.

Departing from San Diego was much easier than departing from Tijuana, but I would suggest that we look at flights that fly directly into Leon.

### **Instructor for Course #5:**

We need to resolve the problems associated with customs officials. If I were doing it again, I think I could solve it through a tariff broker.

### **Instructor for Course #6:**

I had no problems shipping supplies to Mexico, but that was only because one of the instructors had the contacts to take care of it.

**Question 12: For instructors that participated in prior years, have there been noticeable improvements in the program from a logistical and coordination standpoint?**

**Instructors for Course #1, #3, #5, and #6:**

Not applicable.

**Instructor for Course #2 and #7:**

Yes, but a lot of that was because I cut out a large section that was dependent on equipment.

**Instructor for Course #4:**

The program has improved tremendously from the first time. Even though there were problems, there were not as many as before. The overall program should be declared a success.

**Question 13: Please tell us any other issues or suggestions you might have that would help the Educators Exchange Program to be more successful.**

**Instructor for Course #1:**

If the students in Dolores Hidalgo continue to be potters or business owners from the same town, a system of factory visits as opposed to classroom interaction seems more helpful. These people have unique needs that can not be addressed in a group, especially a group of their competitors.

**Instructor for Course #2 and #7:**

More advance planning. Why did we wait until May 1996 to start planning?

**Instructor for Course #3:**

The administrators of the CECATI No. 113 made every effort possible to make the course a success. Despite of the shortness of equipment I am satisfied with the outcome.

**Instructor for Course #4:**

We should have been informed in advance that Customs paperwork needed to be completed and that we would have interpreters for our classes.

Additionally, we would like to know if our hosts were reimbursed for all their expenses.

**Instructor for Course #5:**

This was such a positive experience for me that I cannot think of anything that could be improved upon from my perspective. Accommodations for the students should be improved.

**Instructor for Course #6:**

Another issue that needs to be looked at was the lack of a lunch. Four out of the five days a week the students were only given cookies and coffee at noon.

**Question 14: Describe other activities you did while in Mexico other than teaching such as visiting with students, touring factories or other schools, or attending cultural events that helped you to gain further insight into Mexico.**

**Instructor for Course #1:**

Factory tours were very revealing. I wish I'd been invited to more factories for longer periods of time. Lunches with my students were a good time- a relaxed time where interpersonal relationships could be established. During our class time there was a more formal feeling. Other than factory tours there was zero to very little interaction between me and my students outside of class. Weekend trips were good, but somewhat tiring due to additional language burdens on me.



**Instructor for Course #2 and #7:**

I met with old friends from my last visit, went on an excursion to visit a lake in a volcano in San Pueblo de Los Ollas, visited historic Queretaro, and suffered through Asufres.

**Instructor for Course #3:**

As a group, we visited the CECATI No. 80 in Irapuato, Guanajuato to get acquainted with their newest acquisition (a set of computers and printers that design patterns for the industry of clothing). We also visited a port's factory called "Way In" in Irapuato, Guanajuato. It was a very good experience for all of us sewing instructors.

**Instructor for Course #4:**

We were treated to many outside activities while in Mexico. There were trips to Santa Clara, Guanajuato, Los Sulphraes. We toured a large area and saw many new and wonderful things. We were also asked to participate in many other events such as the graduation ceremonies of the CECATI No. 89 class of 1996. At this ceremony, we were honored guests and actually helped pass out diplomas. There were many less formal functions which ranged from having dinners at our hosts' homes to visiting old friends from previous trips. I think that no matter if this was your first time or if you had been here before your insight into Mexico's people and culture was enhanced- they're wonderful people.

**Instructor for Course #5:**

Prepping for and teaching 30 hours a week didn't leave a lot of time for other activities. However, we did manage to do a few things. We, the visiting teachers, participated in CECATI No. 89's graduation, as a group we attended a Mexican barbecue, and we visited the beautiful and historic cities of Guanajuato, Queretaro, and Morelia. We toured numerous churches, cathedrals, and convents- all erected in the 16th century and all exceedingly beautiful. In addition, we climbed pyramids and spent a night at a hot springs resort in the mountains.

It was wonderful to have the opportunity to see all the beautiful and historic buildings and cities, but the most satisfying and gratifying part of the entire experience was meeting and living with the Mexican people. They are warm, generous, and loving people.

**Instructor for Course #6:**

The administrators and staff were perfect hosts. On weekends they took us to Guanajuato and Michoacan. The second week they invited us as guests of honor to their graduation ceremonies, where we were entertained by a great jazz band, a fashion show, and a Ballet Folkloric. After the graduation ceremony, they had a party for all instructors, administrators, and students.

We were invited to dinner at our hosts' homes. These gatherings gave us a better understanding of the important role that the family has in the Mexican culture.

The ESL students hosted a farewell party for our class. It was an evening I'll long remember. There were the usual party activities: eating, playing games, and dancing, but there was also time set aside for poetry readings. One of the ESL students wrote a poem about the 19 "seeds" (ESL students) that were "nourished" and "harvested".

**Question 15: Would you participate again? Please provide additional comments as to why or why not and any other observations about how to improve the program.**

**Instructor for Course #1:**

Not certain. Overall this was a bad experience for me due to my language comprehension not being what I had expected which added additional stress on top of a changed program.

Possible meeting between students and instructors before the course begins?

**Instructor for Course #2 and #7:**

Yes, but only with more advance notice and perhaps with two or more shorter stays instead of just one long stay, but it depends on the course material.

**Instructor for Course #3:**

Yes, I would participate again, provided that the location chosen for the course has adequate equipment.

**Instructor for Course #4:**

Yes, I would participate again, but it is hard to leave my family, friends, and other responsibilities for almost 5 weeks.

**Instructor for Course #5:**

I would love to participate again! My experience was so positive and productive that I cannot think of many things that would improve the program.

**Instructor for Course #6:**

It was a great opportunity and privilege for me to share my expertise with my colleagues in Mexico. I, very definitely, would like to participate in this program again.

The students weren't the only ones learning. I, too, learned a lot this summer, and because of the Educators' Exchange Program, we are all better teachers.

# Appendix D:

## Ford Foundation Budget 1996-97

# FORD FOUNDATION BUDGET 1996-97

BUDGET '4469-7501-XXX-493033		Stipends	Supplies	Operating Expenses
Account Codes		1100	4000	5000
			\$3,000	\$17,000
Instructors		26,272		
Classified		1,000		
Benefits		2,728		
<b>Subtotal of Accounts</b>		<b>\$30,000</b>	<b>\$3,000</b>	<b>\$17,000</b>
<b>TOTAL FORD FOUNDATION BUDGET</b>	<b>\$50,000</b>			
<b>EXPENSES</b>				
<b>SALARIES/STIPENDS</b>				
Salaries and Benefits for Instructors		32,452		
Nancy Seamster/Office Systems				
Jack Bollinger/CNC & CAD/CAM				
Jim Lewis/Diesel Technology				
Mary Beauparlant/ESL				
Rosa Shook/Textiles				
Armando Abina/Spring Project Coordinator				
Rafael Alvarez/Asst. Spring Project Coordinator				
Ray McFarlane/Fire Science				
Larry Cooke/Fire Science				
Wm. Steve Lickiss/Police Science				
Freddie Richards/Electronics				
Paul Chlapecka/Aviation				
John Haley/Police Science Asst.				
Ernest Salgado/Police Science Asst.				
Subtotal Expenses		32,452		
Subtotal Remaining		(2,452)		
<b>SUPPLIES &amp; MATERIALS</b>				
Supplies for Certificates			19	
Office Depot/Supplies Certificates			35	
Sewing Supplies			59	
Templates for Diesel Technology/Miramar Invoice			209	
Copying of materials in Mexico			82	
Copying of Materials			6	
Paper for Certificates			14	
Instructional Supplies/Police Science			183	
Instructional Supplies/ESL			75	
Instructional Materials/CNC Spring Class			303	
Subtotal Expenses			986	
Subtotal Remaining			2,014	





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