

MODELING A COLLEGE OF TECHNOLOGY

Summary Report

By

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This paper is a brief description of the successful effort to rehabilitate the Instituto of Tecnológico Centroamericano (ITCA). The project commenced at the time of the signing of the Peace Accord, which ended ten years of civil conflict in El Salvador. The internal conflict drained valuable resources from the educational and social programs of El Salvador deteriorating the country's two-year technical college. At the time of the signing, enrollment at the ITCA was 900 students, faculty/student ratios were very low, and student completion rate was very low. The facilities and campus bore signs of neglect compounded by unrepaired damages from the 1986 earthquake.

To rebuild ITCA, the Government of El Salvador created a partnership with the Business Foundation for Educational Development (Fundacion Empresarial para el Desarrollo Educativo - FEPADE). Under the agreement, FEPADE would assume responsibility for rebuilding and then manage ITCA. The rehabilitation project was funded by an Interamerican Development Bank (IDB) loan to the government of El Salvador. The project included the development of Administrative Academic systems appropriate for a two-year technical college and evaluating and revising existing curriculum.

FEPADE had been introduced to Alfred State College by Congressman Arno Houghton in 1988 when Congressman Houghton and Dr. John O. Hunter, President of Alfred State College visited Central America. FEPADE was looking for a partner in technical education and shortly thereafter visited Alfred State College. Impressed with the curriculum, administrative support systems, and facilities, FEPADE contracted to have six students, future FEPADE instructors, attend Alfred State College for two years to increase their technical knowledge.

Concurrently, IDB, the government of El Salvador, and FEPADE entered into an agreement for the rehabilitation of ITCA by FEPADE. The project had the following objectives: (translated)

1. Reform the curriculum to offer careers that were needed by industry.
2. Develop a curriculum structure for technical education based on required competencies and skills.
3. Involve the employers in the reform of the curriculum.
4. Improve the efficiency by reducing student attrition and failure rate. Improve student/faculty relations.
5. Establish a system for the selection and admission of students, vocational evaluation, and placement and follow-up after graduation.
6. Renovate the equipment in laboratories and provide new equipment and materials for teaching the new specialties.
7. Repair, rehabilitate, and remodel existing structures and construct new spaces as needed.
8. Develop a program of informal short courses for industry utilizing the installations and resources of ITCA.
9. Establish a system of financial support for poor students who would benefit from technical education.
10. Improve the technical training and teaching skills of faculty.
11. Increase the number of students from 800 to 2,000 in the technologies including industrial, mechanical, electrical, civil, and food service.

The objectives were clear, but how best to accomplish them? Dr. John O. Hunter proposed a systems modeling approach. It was recognized that the operational systems that make Alfred State College successful would not be directly transferable to Central America, but that the strategic framework and systems concepts would be. Dr. Hunter's proposal, "Modeling a College of Technology, El Salvador Proposal" (1988) detailed a strategic framework of a successful College of Technology. The strategic framework paralleled the BID project needs. It emphasized the bonding of industry needs and education to achieve responsive curriculums, current with technological innovation and built on a foundation of Math, Science, and Communication skills to allow the students to adapt to ever-changing technologies. The strategic framework equally emphasizes creating programs of excellence and programs for enrollments management for integrating student support services. The enrollments management strategy begins with student recruitment and orientation and ends with graduation and job placement.

The Dr. Hunter plan was the strategic framework for the project. The next step was to move from the strategic framework to the five successful operational systems used at Alfred State College:

1. Enrollments Management
2. Curriculum Development
3. Budgeting and Finance
4. Facilities, Operations and Support
5. Evaluation and Development.

The five systems were essential in developing the premier technical college at Alfred and formed the foundation for a plan to reconstruct ITCA. The development was laid out in four stages:

STAGE 1. Approval of a strategic plan and a plan for organizational development and legal accountability.

STAGE 2. Enabling of the college through the appointment of a governing board or council; adoption of a financial plan; appointment of college administration; development of administrative systems, and curriculum plan.

STAGE 3. Hiring and orientation of faculty, curriculum development, rehabilitation and construction of facilities, and creation of an evaluation and development system.

STAGE 4. Admission of students and commencement of Enrollments Management strategies.

The framework was set and systems identified. The challenge was how to bring the successes of Alfred State College to ITCA. The prescription was "modeling", using the professionals that created and maintained the success of ASC to mentor with professionals of ITCA. The process was time-consuming, but rewarding. ASC professionals and faculty traveled to ITCA, enveloped the culture of the country, scrutinized the needs of the workplace, listened to the concerns of their counterparts, shared existing ASC documents, and prepared prototype documents. The goal was to provide a framework with ASC examples, or kind of road map, for the Salvadorian counterparts/partners who made final determination of a system appropriate for the ITCA/Salvadorian culture. Given the language and culture differences, it was impossible for the ASC professionals to write a detailed prescription. The professionals and faculty from ASC accepted the differences in culture and encouraged the "tropicalizing" of the ASC systems to assure new systems would meet the needs of the ITCA students in the context of Salvadorian culture.

Through modeling, the following areas were developed:

1. **Enrollments Management**
 - a. **Admissions and marketing**
 - b. **Student support services**
 - c. **Learning Resource Center with library and computer facilities**
 - d. **Student placement and follow-up**

2. **Curriculum Development**
 - a. **Curriculum design process**
 - b. **Concept and use of advisory committees**
 - c. **Analysis of industry needs**
 - d. **Academic regulations**
 - e. **Academic quality "continuous improvement plan"**
 - f. **Faculty development programs**
 - g. **System for academic equipment development**
 - h. **Short courses and industrial relations**
 - i. **Curriculum development in electrical, automotive, civil, food service, air conditioning, mechanical, chemistry, and agriculture**

3. **Budgeting and Finance**
 - a. **Computer development plan**
 - b. **Computer network development plan**
 - c. **Financial systems**
 - d. **Human resource systems**

The program was successful. ITCA now has 2000 on the Santa Tecla campus and three additional remote locations in El Salvador. Alfred State College and ITCA remain in constant communication, both learning and growing from this mutually beneficial experience.