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PROYECTO EDUCACION PARA EL TRABAJO (PRODET)

USAID/CHILE

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EXECUTIVE SUMMARY

EVALUATION OF TECHNICAL EDUCATION PROJECT (PRODET)

I. INTRODUCTION

This project began in September 1990, following the signing of a cooperative agreement between USAID/Chile and the Centro de Investigacion and Desarrollo de la Educacion (CIDE). A total of US \$900,000 in funds are committed to this activity, scheduled to terminate in December 1993. In support of developing a broad-based, highly skilled workforce for the export-oriented economy of Chile, the project seeks to establish a more effective system of publicly financed secondary level technical-vocational education (TVE) through a number of modestly funded initiatives: a) creation of six (6) model pilot schools which incorporate the proven elements of competency-based instruction (CBI), private sector oriented advisory committees, work-study programs, student orientation, and employment counseling and tracking; b) development of a local expertise in CBI in secondary and post-secondary level technical education institutions; c) promotion to key public and private officials of changes in the structure, coverage and financing of TVE in order to improve the efficiency and effectiveness of the system; d) encouragement of representatives of local businesses to work in *partnership* with the pilot schools; e) promotion of the merits of CBI and related teaching methodologies to leaders of the business community, secondary and post-secondary institutions, Ministry of Education, and municipalities; and f) creation of a clearinghouse in CIDE to serve as a national resource center on TVE.

II. PURPOSE OF VISIT

The project has yet to be formally evaluated since its initiation. With the project scheduled to terminate in less than one year, it is critical that progress to date be assessed so that appropriate adjustments can be made during the remaining life of the project to facilitate the achievement of project objectives.

In November 1991, following an analysis by Gary Russell, USAID/Washington, of the original project design, the broad scope of project activities was subsequently narrowed to focus on developing six model pilot schools. This was done to better market the reforms that the project is introducing by showcasing them to the principal actors involved in secondary vocational education who would be responsible for adopting them on a system-wide basis. These actors include the Directors of TVE secondary schools, officials of the

Ministry of Education, leaders of the business community, elected representatives of municipalities, and Directors of the TVE corporations. As the central component of the project, this evaluation focuses on CIDE's progress in developing the six model schools.

III. METHODOLOGY

The list of project activities contained in the logframe and implementation plan, which support accomplishment of the broader initiatives identified as a) - f) in the foregoing introduction, formed the basis of the evaluation. In conducting this assessment, many individuals and documents were consulted. Meetings were held with Juan Carlos Diaz of USAID/Chile, Carol Cummings of the Binational Center (BNC) of Chile, and a number of CIDE staff including Patricio Cariola, Luis Brahm Menge, Eliana Lluch, Ricardo Andreani, Oscar Corvalan, Arturo Urrutia, and Berinice Garcia. In addition, visits were made to all six pilot schools where discussions were held with teachers and administrative staff of each school, and other local individuals involved in the project from the business community, municipality, Ministry of Education, regional technical universities, and TVE corporations.

Documents reviewed included the project logframe, project plan, quarterly project budgets and status reports, survey report of pilot activities, CIDE quarterly bulletins, several project funded studies, CBI occupational profiles, memorandum of understanding establishing the terms of pilot school activities, and evaluation of the BNC's role as administrator of project related participant training.

IV. CONCLUSIONS

General

CIDE has done an excellent job of helping to establish in Chile a more effective system of secondary level vocational education. Much of the project's success is due to the talented and dedicated project team at CIDE, as well as to the cooperative working relationships they have cultivated with representatives of the pilot schools, Ministry of Education, technical universities, municipalities, TVE corporations, business sector, and USAID. In less than three years, and with a relatively small amount of funding, CIDE has produced a long list of project accomplishments:

- * National associations of Chilean businesses now have a greater appreciation of the important role of secondary level vocational education in the formation of a highly

skilled workforce and, thus, are more willing to become involved in efforts to improve and sustain the quality of that education;

- * Representatives of businesses operating in the localities of the six pilot schools are actively participating in all aspects of the schools' technical education program;
- * Competency-based instruction is now accepted as the preferred vocational education teaching methodology by members of the business community, university professors of technical education, secondary level vocational education teachers and school administrators, and representatives of the Ministry of Education;
- * The Ministry of Education, vocational education teachers and administrators, representatives of municipalities, and the leadership of the teachers' union now recognize the importance of involving the local business community in the affairs of every vocational secondary school;
- * The first national clearinghouse of information on technical-vocational education has been established, and is being utilized actively by representatives of vocational secondary schools, technical universities, and the Ministry of Education;

The heightened interest in VTE fostered by this project has prompted others outside the project to make contributions of their time and money to secondary level vocational education. These include establishment of an annual competition of VTE schools to promote vocational education nationally, with the business community underwriting most of the costs; formal solicitations from schools neighboring the six pilots for technical assistance in the development of their own CBI curricula; and donations of new training equipment to secondary TVE schools by local businesses. While neither planned nor paid for by the project, these outcomes are a direct function of the national dynamic to reform secondary VTE that has been sparked by this project.

Financial and Reporting Requirements

From the start of the project, CIDE has routinely submitted detailed planning and activity reports to USAID on a quarterly basis. In addition, they have complied fully with all financial accounting and reporting requirements.

Specific Project Components

With respect to the implementation of each project component, CIDE has been more successful with some than with others. Integrating CBI into every pilot school has been

an extremely labor intensive activity and, consequently, has progressed much slower than initially envisioned under the project's timetable.

The strengths and weaknesses of each project component are discussed below.

A. Pilot Schools

Strengths

- The selection of pilot schools by CIDE was conducted in a methodical, objective and fair manner. The dividends of this approach are evident in the strong commitment of the teachers and administrative staff of each institution to succeed as pilot schools. This commitment is manifested in the energy and long hours, without compensation, that each team of teachers has invested in the project.
- All schools have in place functioning advisory committees, consisting of representatives of local businesses specializing in the technical area selected by the school to undergo curriculum reform, as well as the leadership of the school and, in some cases, officials of the municipality, Ministry of Education, and local university.
- All schools have, at minimum, completed one technical profile, and are in the process of analyzing tasks; all six schools plan to implement CBI in one technical area by the start of the next school year.
- Two schools have formally begun to implement CBI in a second technical area. To that end, memoranda of understanding have been signed, and an additional advisory committee formed in order to obtain the support of relevant businesses.
- The decision by each of the pilot schools to involve the academic and technical teachers in the development of the CBI curriculum has sensitized each of them to the *interdependent* nature of the two tracks. As a result, academic teachers have begun, on their own initiative, to introduce applied teaching methods in order to make their courses more relevant to the vocational students. At the same time, technical teachers have come to appreciate the importance of an academic education as it builds the foundation from which students are able to excel in the technical trades.

Weaknesses

- All pilot schools are about one year behind schedule in developing and implementing CBI in one technical area. The delay is the result of a longer than expected process of selecting the six pilot schools, and by an overly optimistic timetable for introducing a new curricula into the formal education system. Unless the rate of progress is significantly accelerated during the next eight months, it will be difficult for the pilot schools to implement CBI by the start of the next school year as some of the most time consuming stages of the process--formulation of standards and development of teaching materials, for example--are yet to come.
- Implementation of the other elements of the model TVE school, such as a well supervised work-study program and comprehensive student orientation, counseling and job placement program are also behind schedule. It appears that development of these aspects of the program has been postponed unnecessarily until CBI is implemented fully.
- In several pilot schools, the participation of representatives of the Ministry of Education, businesses, and the local university is inadequate. All three institutions in Chile should be a party to each memorandum of understanding, and actively involved in pilot activities. Their involvement is critical if the concepts embodied in the pilot schools are to become permanent and, ultimately, replicated in other TVE schools throughout Chile.

B. Training in CBI to Secondary/Post-Secondary Teachers

Strengths

- During the course of the project, CIDE has conducted approximately 17 seminars in CBI for secondary and university level technical teachers. The majority of these seminars were targeted at individuals participating directly in the work of the six pilot schools.
- In addition to formal seminars, since May 1992, technicians of the CIDE project staff have spent at least one day per month working side-by-side with teachers of the 6 pilot schools in the development of the CBI curriculum. Within the last month, these visits have increased in frequency to twice monthly and, in some cases, to four monthly.
- CIDE has signed agreements with four technical universities, formalizing their participation in the implementation of CBI in Chile.

Weakness

- The training conducted in the U.S. in three technical areas (refrigeration, forestry, and Hydroponics) for TVE teachers was not especially effective in perpetuating the implementation of CBI in secondary VTE schools throughout Chile as the training they received in designing a CBI curricula was inadequate in some cases. Moreover, regarding several participants, it has been difficult to verify if they are applying in their work any of the training they received in the U.S.

C. Promote Changes in the Structure, Coverage, and Financing of TVE

Strength

- The most important concept that this project has introduced in Chile is the important role to be played by the local business community in the development and validation of technical curriculum, and in the training of students through work study programs.

Weaknesses

- CIDE has failed to develop a strategic plan for convincing the leaders of government and the private sector to adopt the reforms being promoted under the project as embodied in the six pilot schools. Without such a plan, there is little likelihood that the outcomes of this project will be sustained or replicated throughout Chile.
- The publication of many of the policy studies, which are designed to help justify the reforms, is far behind schedule. Without the substantive "ammunition" to support its position in dialogue with private and public sector officials, CIDE will be unable to promote credibly its agenda.

D. Encourage the Business Community to Work in Partnership with Pilot Schools

Strengths

- Relevant representatives of local businesses in the six communities of the pilot schools have become involved, to varying degrees, in the activities of the project. This involvement is formalized in their participation in the memorandum of

understanding with CIDE and the school, and as members of the newly formed school based advisory committee.

- The business community throughout Chile has been sensitized to the important role of technical education in the development of their own companies and, less directly, of the Chilean economy. Consequently, they are more willing to support efforts to improve technical education in Chile.

Weakness

- The involvement of the business community in the project is not as broad-based nor as intensive as it could be. Part of the reason is that CIDE has not given the business community sufficient guidance on how to *operationalize* its interest in, and support for the project. The degree of involvement of business representatives in the project would be far greater were CIDE to give them the same amount of technical assistance that it now gives to the teachers of the pilot schools working to develop a CBI curricula.

E. Promote CBI to Key Public and Private Officials in Chile

Strengths

- CIDE has done an excellent job of promoting CBI to representatives of TVE schools, technical universities, and the Ministry of Education, at both the national and regional level. The Ministry of Education has supported the project from the outset by enabling the pilot schools to experiment with the CBI curriculum. Such support is critical if the Ministry is to ultimately approve CBI as a certified curriculum in technical education. Through longstanding relationships with leading educators in Chile, CIDE also has been able to influence indirectly the design of a new secondary level project funded by the World Bank which is likely to incorporate CBI and the establishment of school based advisory committees as one of several effective modes of technical education.
- The national TVE Olympics were extremely successful in introducing CBI in many schools throughout the country and, further, in promoting technical education on a national level to the private sector. The first Olympics were so well received by the business community, that they agreed to underwrite most of the costs of the second Olympics.

Weaknesses

- CIDE has been less effective with national leaders of the Chilean private sector than with local representatives in convincing them about the integral role of businesses in the development and validation of CBI curricula. The lack of success in this area delayed for many months the active participation of the business community in project activities.
- An insufficient quantity of local expertise in CBI has been developed in the regional offices of the Ministry of Education and in regional technical universities. This limits the amount of technical assistance which can be provided to the pilot schools and lessens the possibility that CBI will be instituted in other TVE schools.

F. Create a Clearinghouse in CIDE on TVE

Strengths

- In a relatively short period of time, CIDE has established a library of documents on TVE, much of it published by CIDE, numbering in the thousands. A quarterly bulletin on TVE, reporting on various project activities, as well as studies conducted under the project are routinely distributed to all 500 TVE schools, technical universities, the Ministry of Education, Ministry of Labor, other appropriate government agencies, members of Congress and major libraries in Chile. Though difficult to gauge precisely, the dissemination of this information has probably been CIDE's most effective marketing tool for promoting reforms in TVE.
- All six pilot schools are utilizing the documents disseminated by the clearinghouse to assist them in the technical aspects of implementing CBI. In addition, they have actively sought additional documents from the clearinghouse. The technical universities also have been active users of the clearinghouse's resources.

Weakness

- It is unclear how CIDE intends to continue funding the clearinghouse after termination of the USAID project. As a national resource on TVE, it is imperative that this library continue to play an important part in the procurement and dissemination of materials on technical education and training.

V. RECOMMENDATIONS

CIDE

1. **Limit further training in the U.S. to Competency-Based Instruction methodology, and applied academic instruction. Further, limit participants to teachers, counselors, and directors of the six pilot schools, and corresponding regional representatives of the Ministry of Education. This recommendation is designed to buttress project efforts to sustain and expand knowledge of the CBI teaching methodology in each of the six regions.**
2. **Develop and implement a strategic plan to convince key leaders of the private and public sectors to adopt nationally the reforms for secondary level TVE being promoted under the project. To succeed, CIDE will have to invest considerable time and energy into promoting the successes of the six pilot schools. A budget should be developed by CIDE for implementing this plan, the costs of which are likely to exceed the balance of remaining project funds.**
3. **Intensify its campaign to secure funding from additional sources in order to continue the work of the project (i.e. complete implementation of pilot schools, maintain clearinghouse, and expand pilot concepts to other schools) after USAID funds are exhausted. The institutionalization of a new approach to technical education as introduced under this project on an experimental basis is a slow process which will require more resources and time than USAID is able to grant.**
4. **Provide more frequent technical assistance to several pilot schools in order to facilitate the implementation of CBI by the start of the next school year. To that end, CIDE technical staff should increase the frequency of visits to the pilot schools in Curico and La Ligua to at least one visit per week. CIDE staff should maintain weekly visits to the other four schools, except, perhaps to La Serena, which could be reduced to twice monthly because of the availability of local expertise in the name of Oscar Silva. Reducing the frequency of flights to La Serena would also net significant savings in travel costs for the project.**
5. **Provide representatives of the local business community who are members of the school advisory committees with written operating manuals and related training workshops to further educate them in their role as full participants in the improvement of the pilot schools. The lack of participation by business representatives in the implementation of the CBI curricula is often more the result of a lack of "know how" than lack of desire. At the same time, more hands on**

technical assistance needs to be offered to the business community in a fashion similar to the assistance in CBI development now provided by CIDE to the pilot school teachers.

6. Reach out more aggressively to the regional ministries of education and technical universities which are not now active participants in the development of the pilot schools. The involvement of these two institutions in the implementation of CBI in the region is considered vital to the sustainability and expansion of project improvements.
7. Communicate regularly the successes of this project to key officials of the Ministry of Education, business community, and, in particular, to members of the World Bank team designing the new secondary level education project, expected to begin in 1995, to help insure that the elements of the model schools (CBI, applied academics, business oriented advisory committees, work-study program, and orientation, counseling, job placement program and follow-up program) are incorporated into the design of the Bank's project. The development of a close, working relationship with the World Bank Design Team should be an integral part of the strategic plan formulated by CIDE to institutionalize the reforms being promoted under the project.
8. Consider building from the ground up, a national advisory committee consisting of a select number of representatives from the pilot school committees to promote on a national level the continuing need to improve the entire secondary level TVE system.
9. Accelerate the development of improved programs in work-study, student orientation, student counseling, and job placement and follow-up in each of the pilot schools in order to ensure that these project components are implemented prior to the scheduled December 1994 termination of the project.

USAID

1. Extend the project for as long as practical, given the level of remaining funds, to provide CIDE with additional time to obtain its project objectives. Most pilot school activities are behind schedule and are not likely to be completed before the current project termination date.