

The Ibero-American Science and Technology Education Consortium (ISTEC): Lessons of Seven Years of Project Oriented Partnership

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Abstract

This paper presents a self-critical look at the ISTEC consortium after seven years in existence. The paper identifies some successful practices and some problems in the hope to be of use for similar international programs.

1 Introduction

The Ibero-American Science and Technology Education Consortium (ISTEC) has been in existence for seven years, and during the Seventh General Assembly held in Lima, Peru, in November 1997, the members participated in an extensive evaluation of policies and practices of the Consortium. That evaluation identified specific elements of the interactions which have led to successful programs and others which have not. In this paper we present the outcome of that discussion in the hope of extending the ISTEC initiatives that have been successful in furthering the consortium goals of enhancing educational quality, promoting R&D, and effecting technology

(UNM). One such program has led to a PhD candidate of the university of Vigo conducting part of his research at UNM, and obtaining his degree from his home institution. The research in question was supported by funding from the local spanish authorities, and has won national awards. Other such collaborations have been less successful when the connection was artificial or when a well-defined research program was not identified prior to the visitations. There is a large pool of talent available for furthering the advancement of technology and education, and connecting together people of similar interest in trans-national cooperation opens up different avenues of research and interaction. This interaction across borders and continents transcends local problems and allows projects to

be successful by involving people at diverse locations, but only if the projects in question are well defined and have a tangible goal (PhD degree, a final report, etc).

2.2 Lesson 2

A second lesson demonstrated by the interactions within ISTE C is that funding for multinational projects is challenging and rewarding. The challenge is to identify agencies that share the concerns of the projects being considered, agencies interested in the technology, science, or educational methodology under development, and the international collaboration that will result. The reward is the distribution of state-of-the-art information in educational activities, as well as research and development activities. One of the challenges identified is to raise the awareness level of officials in governments, funding agencies, and industries, and to encourage them to participate in projects which will further these partnerships. It was obvious to the members that with the exception of a small multinational grant, most of the consortium funding has been from its members including Universities and industrial partners. Despite repeated expressed interest of multinational funding agencies and their agreeing with the goals of the consortium, funding from these sources has been scarce.

2.3 Lesson 3

Another lesson on the evaluation is that the critical mass needed for successful transnational projects is relatively small, but that the participants in this type of project need to be committed to the activities of the project

and willing to pursue non-traditional methods to achieve their goals. We observed that many people will work for the betterment of their institution and their technology even though individual rewards are not well identified. On the other hand, it was determined that unless participation in ISTE C is supported and nurtured by University administrators and decision makers, such participation becomes non-fruitful. The experience of Spain and Brazil where department heads and/or provosts are ISTE C participants is contrasted with those of Mexico and Peru where faculty members (some of whom junior) are representing their institutions.

2.4 Lesson 4

The ISTE C experience has also demonstrated that interactions with industry in educational projects result in benefits for all parties. When the projects are properly designed, educational institutions are able to work with state-of-the-art equipment and techniques, and industries have access to good students for employment, as well as improving availability of technology which they provide. Improved access to the latest technology also enhances the educational institution's ability to pursue advanced research projects. On the other hand, it was discovered that benefits to industry are not spelled out nor obvious as one tries to recruit new members. This was illustrated by the experience of a Brazilian member who tried to recruit new industrial members by contacting hundreds of companies, and meeting with tens of them but failing to convince even one to join ISTE C!

2.5 Lesson 5

Finally, a lesson of the interactions carried out within ISTECS is that rewards are available for all trans-national cooperation, not just the interactions between "developed" and "un-developed" countries. Cooperation among the countries of Latin America have resulted in positive projects and experiences. There are challenges associated with involving these diverse countries in projects, but the rewards justify the efforts. This involvement has been slow coming and at this stage, few successful projects can be pointed to. As a typical example, the library initiative, often cited as one of the most successful initiatives is only now being participated in by most countries.

3 Looking Forward

By pursuing the beneficial policies and practices learned in its first seven years of existence, ISTECS will continue to enhance educational quality in science and technology, promote research and development projects, and provide a vehicle for technology transfer.

Regarding the first lesson learned, the general assembly recommended using some of the ISTECS funding to facilitate the exchange of well-matched people and supporting their research. In addition, it was suggested that some of these exchanges may be funded by multinational agencies who specialize in such programs.

Regarding the second lesson learned, it was discussed that ISTECS should take on more of an advocacy role in dealing with some of the international agencies. On the other hand, it was suggested that such agencies may not

be the right vehicle after all and that efforts should concentrate on obtaining more funding from industrial partners.

The third lesson made clear the need to sell ISTECS and its contributions to the administrators of Universities in order to recruit champions of the ideals of ISTECS before expanding much time an effort by junior faculty members.

The fourth lesson led the members to realize that industrial partnerships should not be a goal in itself but rather should be viewed as means to achieving ISTECS's mission. It was also realized that ISTECS's value to industry should be clarified and sharpened so that new industrial partners can clearly see the benefits and rewards of joining ISTECS.

Finally, ISTECS's contributions to enhance the collaboration between all countries can be expanded slowly as more and more of the institutions realize the benefits and rewards of collaborating on common-interests projects.

4 Conclusions

ISTECS is going through the growing pains typical of many corporations and organizations as they expand from the idealistic core to a more business like structure. As we look back at the seven-year history, we prepare to leap forward into an abyss of uncertain challenges.