

Assessing Accountability and Quality in International Outreach: Lessons from the Chilean Experience

Introduction

As universities seek to engage in international outreach they must embrace a new vision of learning, one that will assess their investment of human and financial resources based on the articulated cornerstones of academic accountability, while providing equal weight to value-added results. The wide variety of international outreach activities undertaken by higher education institutions ranging from on-site institutes to global partnerships and overseas programs makes assessment and accountability even more challenging. As universities enter into international outreach they must grapple with developing models of assessment and accountability that are responsive to their needs and that reflect the standards of scholarly performance articulated in the academy today.

How can universities effectively examine and assess quality and accountability in their international outreach endeavors? How can outreach organizations assess their ability to address global challenges? This paper provides an example of how one research university in partnership with the Ministry of Education in Chile implemented and assessed an international outreach program using the standards of scholarly work that have emerged from the Carnegie Foundation Report, Scholarship Assessed, while linking these standards to value-added approaches used by our nation's public schools.

Arguments for New Standards for Assessment

Assessment efforts in both K-12 education and higher education have focused attention on both inputs and outputs of the educational process. The most remarkable feature of both models is that such measures provide balance between the multiple measures typically used in traditional Continuing Education program assessments that tend to focus on the experience as opposed to outcomes. These measures might include administering a workshop evaluation, conducting a self-assessment attitudinal survey or collecting comments from participants.

In higher education, perhaps the best standards for assessing effectiveness and quality have been articulated by Glassick, Huber and Maeroff in Scholarship Assessed, a report from the Carnegie Foundation (1997). This landmark work provides outreach scholars a systematic way to approach assessment and accountability that focuses on both outputs and inputs. The standards guiding the process of scholarship, whether it is the scholarship of discovery, integration, teaching or application, involve a sequence of six unfolding stages. These standards include: clear goals, adequate preparation appropriate methods, significant results, effective presentation, and reflective critique. (Glassick, Huber, and Maeroff, 1997). These standards are also reflected in current books on assessment for college and university campuses. Palomba and Banta (1999), in their book Assessment Essentials, include defining goals, selecting methods, listening to and reflecting on student voices, and reporting and using assessment results as integral to evaluation.

Accountability principles drawn from innovative public school paradigms also stress the use of multiple measures in the systemic evaluation of high standards for all students. Until the standards movement in K-12 education focused the nation's attention on high stakes testing and concerns about the success of U.S. students on international comparative measures (TMMS 2002), most public school evaluations of teaching were based primarily on inputs. Now states have dramatically increased a focus on outputs in terms of the number and types of standardized tests administered to students. However, attempts to evaluate teaching and teachers using standardized test scores are not always successful because test scores alone do not paint a complete picture of what occurs in classrooms. To solve the problem of judging the quality of teachers work based on the absolute test scores of their students, value-added assessment models have emerged as a way to separate out confounding variables such as family income (wealthy districts typically score higher on standardized tests). Value added approaches look at a student over time to see whether he or she is moving forward in the learning process. They measure the extent to which students have learned something that they did not already know. Value-added approaches may use specific statistical measures, but the focus is always on student gains.

The value-added approach can also be applied to higher education programs. The quality of the program can be measured by the assessment of each individuals achievement of the stated goals of the program compared to an assessment of their entry level knowledge, competency or skills. Rising interest in

evidenced-based models of assessment to inform education and policy practice has also been reported in publications by the National Research Council (NRC Report 2002).

Both of these assessment models provide a blueprint from which to develop and design a program evaluation to assess international outreach programs. More importantly, these models provide an opportunity to examine the quality of outreach efforts through a number of lenses. This paper demonstrates how continuing educators have applied these two assessment models in the evaluation of an international program at Penn State University. The program, The Chilean Institute for Technology Enhanced Teaching and Learning received the University Continuing Education Association 2002 Exemplary Program Award.

The Chilean Institute for Technology Enhanced Teaching and Learning

The 2001 Fall Institute for Technology Enhanced Teaching and Learning was held on the Penn State University Park Campus and consisted of a six-week program of study from September 30 to November 9. The Division of Continuing Education, in collaboration with the College of Education at Penn State University, the Chilean Ministry of Education, the Consorcio Red de Educación a Distancia, (CREAD) and with support from the Office of International Programs, offered the six-week non-credit Technology Institute for twenty-one Chilean primary teachers as part of a grant from the Chilean Ministry of Education.

The idea for the Fall Institute was developed and articulated in a formal proposal to the Ministry of Education in Chile as a result of collaborative meetings between representatives from CREAD, the Division of Continuing Education, College of Education, and the Penn State University Office of International Programs. The proposal called for:

- A Fall program of studies delivered in the Spanish Language emphasizing the integration of technology into teaching
- A program aimed at international graduate level teachers in Chile and
- A program drawing upon multiple disciplines.

The purpose of the proposal was to create an Institute, a place where teachers from predominantly rural Chilean schools could meet with university faculty and classroom teachers for a structured multidisciplinary program directed at technology training. A unique feature of the Institute was that the program activities were implemented in Spanish, the participants primary language.

Using the Six Quality Standards for Program Evaluation

Evaluation was conducted on the outcomes of the Institute as well as the conditions or antecedents that described participants, instructors, and resources for learning based on the six quality standards articulated in Scholarship Assessed: clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique. Evidence was collected from a number of sources including instruments that were developed and administered to the twenty-one Chilean teachers participating in the Institute to measure the elements of the program as accurately and objectively as possible:

These instruments included:

1. Participant Profile Questionnaire: The participant questionnaire was developed and administered by the academic coordinators prior to the start of the Institute.
2. Pretest and Posttest Skills Assessment: A technology skills inventory was selected and adapted for use based upon research conducted by the Association of Educational Communications and Technology and the International Society for Technology and Education.
3. Institute Evaluation Form: The Continuing Education standardized evaluation form was completed by the participants.
4. Journal Reflections: Participants were asked to write reflections on all program activities in a journal provided to them for this purpose. Journal entries provided insight into how participants were internally responding to Institute activities, their cultural perceptions, and cultural negotiations.
5. Participant and Faculty Interviews: Videotaped in-depth interviews were conducted with participants to provide qualitative information on Institute activities, including information on global and local factors impacting change.

Both qualitative and quantitative measures were used to collect information on how the program meshed with each of the six standards in order to assess the outcomes of the Institute.

Standard 1: Clear Goals

An important first step in developing and assessing international outreach programs is the development of clearly articulated goals. One aspect of stating clear goals is to define objectives that are realistic and achievable. Goals must be realistic and take into account the resources available as well as the constraints and barriers to implementation that exist within the institutional context.

Based on needs identified in the proposal from the Chilean government and an attempt to develop a common understanding of the outcomes of the project, the following goals and objectives were collaboratively identified.

Program Goal Statement

The goals of the program are:

- a. To enhance technological competency and develop technological skills required by the educator's role in today's world.
- b. To better prepare Chilean primary teachers to develop and teach meaningful and thoughtful web-based integrated curriculum units in science, social studies, the arts and humanities.

Program Objectives

The objectives for the Institute are designed to help participants achieve the overall goals of the Institute as well as develop areas of individual expertise.

Objectives:

- a. Participants will improve technology competencies based on an individual assessment of strengths and needs.
- b. Participants will demonstrate the ability to use current technology including web-based instruction, multimedia, and databases to plan, implement and assess lessons and experiences that engage the interests and needs of primary school students.
- c. Participants will plan and prepare thematic content units that emphasize connections among disciplines in science, social science, the arts and humanities and employ a variety of technology based instructional strategies.
- d. Participants will develop web-based activities and lessons that will help children construct their own knowledge by teaching higher-level critical thinking and creative thinking skills.
- e. Participants will demonstrate an ability to grow and develop professionally in the use of technology through reflection on teaching decisions and lesson effectiveness.

Clear goals are published and shared with participants at the beginning of a program. They should be periodically reviewed and discussed by conference planners, content specialists, and program participants.

Standard 2: Adequate Preparation

Adequate preparation for scholarly outreach work is a critical aspect of the program assessment. How has the institution brought together the necessary resources to implement the program? Has a thorough review of the existing scholarship and background information needed to successfully conduct the program been conducted?

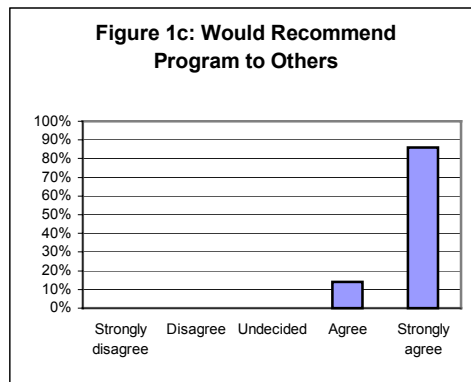
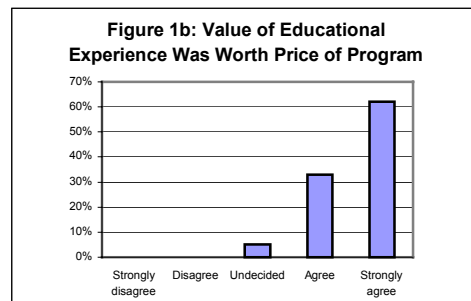
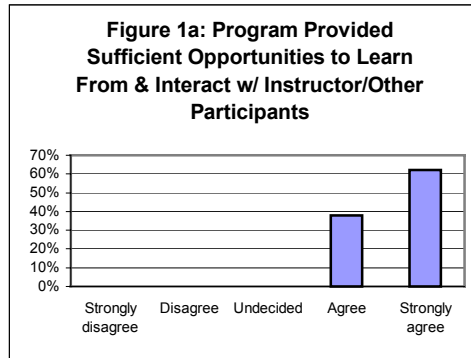
Plans for the 2001 Institute began in May of 2001 with a series of collaborative meetings between the project partners. The goals and objectives for the grant were developed after the project team researched the educational reform initiatives currently underway in Chile. The ENLACES (Links) Program in Chile represents a significant government investment. As part of the ENLACES Program, the Chilean government has invested in computer technology for every school in Chile.

A project development team comprised of three representatives from Continuing Education and three representatives from the College of Education was established to provide oversight for the project implementation and evaluation. One of the team members was from Chile and three were fluent in Spanish, the dominant language of the participants. The team met consistently on a weekly basis six months prior to the arrival of the participants. During that time an intensive schedule was prepared detailing translation and interpretation needs, the development of preparatory seminars and orientation sessions for faculty and participants, and a detailed schedule of all activities.

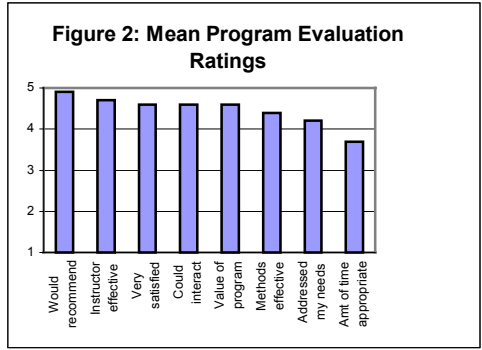
Standard 3: Appropriate Methods

A third standard for quality assessment is an examination of the methods chosen to implement and assess the program. At the most basic level the methods should be appropriate to the goals. A measure of how effectively the methods were applied can also be assessed using data from the overall program evaluation instruments.

One instrument used to measure appropriate methods in the Chilean Institute was the Penn State Conferences and Institutes, Division of Continuing Education, standardized evaluation form. Participants rated various aspects of the Institute at its completion using a program evaluation form. The mean responses of the participants to the three assessment questions are depicted in Figures 1a, 1b, and 1c.



As can be seen from the data that follows, participants most strongly agreed that they would recommend the program to others (mean=4.9 out of '5'). The overall evaluation measures collected from the Institute Evaluation indicate that the participants strongly agree that the Institute was a significant and valuable educational experience. The results of the Institute Evaluation Form indicated a high degree of success in the quality of Institute presenters, topics, and content as shown in Figure 2.



The ability to derive benefits from the Institute, and to take advantage of learning is often tied to one's attitude toward the experience. All of the Institute participants indicated that the activities and discussions which occurred during the six-week period were meaningful.

Standard 4: Significant Results

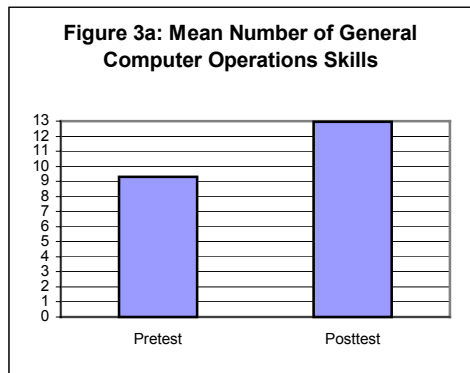
Like all aspects of scholarship, outreach programs must be judged by the significance of their results. Do the participants achieve the goals of the program? Has the program made a contribution to the field of scholarship? Using the value-added model discussed earlier, results will only be significant if a gain in participant's learning can be clearly demonstrated.

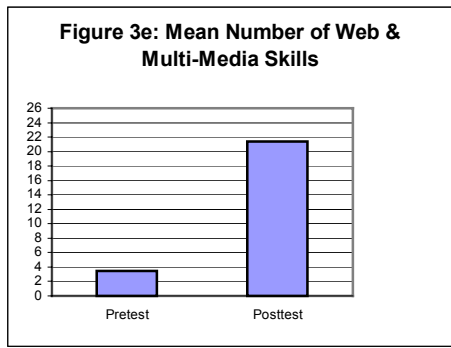
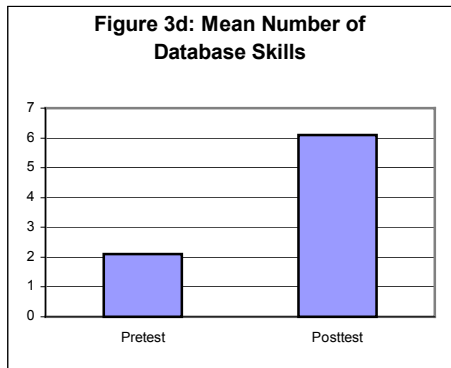
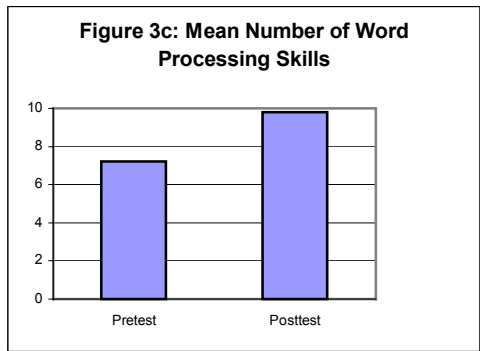
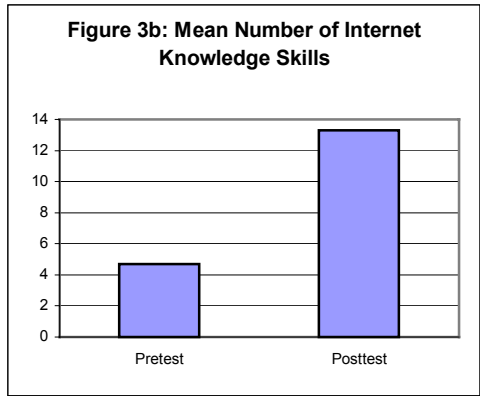
Since a major goal of the Institute was to provide technology training for Chilean teachers in response to an invitation from the Chilean Ministry of Education, an instrument to assess computer skills was identified and adapted for use in the program. The instrument, was used to assess a pre and post test comparison of learning gain. The instrument was translated into Spanish, the dominant language of the teachers, and administered to the twenty-one participants to gather information from a pre and posttest comparison.

The percentage of participants indicating that they could do a particular skill on the pretest and posttest is indicated in Figure 3a through 3e.

Results indicate that participants showed a statistically significant improvement in all but 4 of the 50 skill areas ($p < .05$). The reason that there was not a statistically significant improvement in 4 of the 50 skill areas is that nearly all of the participants could already do the skill on the pretest: three of these skills related to word processing (open, save, and print an existing document) and one related to general computer operations (save a file on the computer's hard drive and on diskettes).

The number of skills participants could do on the pretest and posttest within each skill area were compared using paired t-tests. Gains were statistically significant in all skill areas ($p < 0.001$).

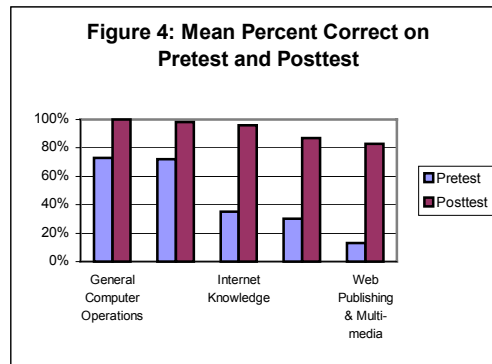




Gains in general computer operations and word processing were about the same ($t=0.227$; $df=20$; $p=0.0822$). Also, scores on the pretest and posttest within these two skill areas were similar (pretest:

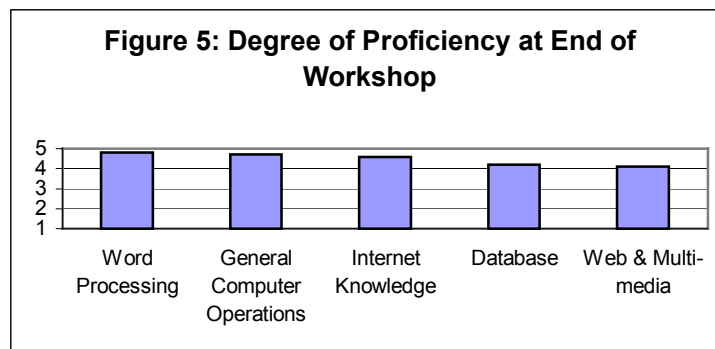
$t=0.228$; $df=20$; $p=0.822$; posttest: $t=1.408$; $df=20$; $p=0.175$). Gains in internet knowledge and database skills were also similar ($t=0.606$; $df=20$; $p=0.551$); pretest and posttest scores for knowledge and database skills were similar, (pretest: $t=0.529$; $df=20$; $p=0.603$; posttest: $t=1.736$; $df=20$; $p=0.098$). Also, gains in database and web and multi-media skills were similar ($t=1.440$; $df=20$; $p=0.165$); pretest and posttest scores for database and multi-media skills were similar as well, ($t=0.832$; $df=20$; $p=0.415$).

Figure 4 shows that by the end of the workshop, participants were more skilled in general computer operations in particular, and to a lesser extent in word processing compared to the other skill areas. The pretest shows that participants were weakest in database and web and multimedia skills.



In order to determine whether gains in one skill area were associated with gains in another skill area, the Pearson correlation coefficient was calculated. Results indicate that gains in general computer operations, internet knowledge, and word processing were significantly and positively correlated (general computer operations & internet knowledge: $r=0.765$; $p<.001$; general computer operations & word processing: $r=0.792$; $r=0.761$; $p<.001$). In other words, participants who showed larger gains in general computer operations also tended to show larger gains in internet knowledge and word processing. Conversely, participants who showed smaller gains in general computer operations also tended to show smaller gains in internet knowledge and word processing. Gains in the other skill areas were not significantly correlated ($p>0.05$).

Figure 5 presents participants' mean level of proficiency within each of the five skill areas at the end of the workshop. Only those respondents who indicated that they could do a particular skill rated their level of proficiency for that skill. Participants rated themselves as most proficient in word processing, followed by general computer operations, internet knowledge, database, and web and multimedia



The pretest/posttest model used in the Institute represents a form of value added assessment that depicts the significant results of the Institute. Participants gained a significant degree of proficiency in five areas.

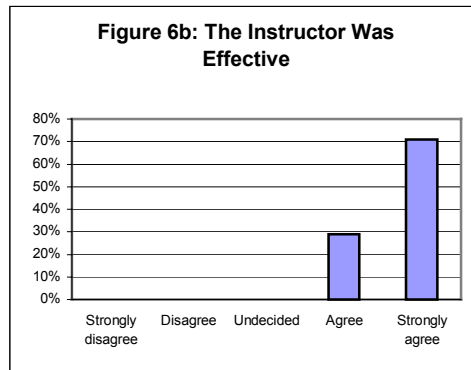
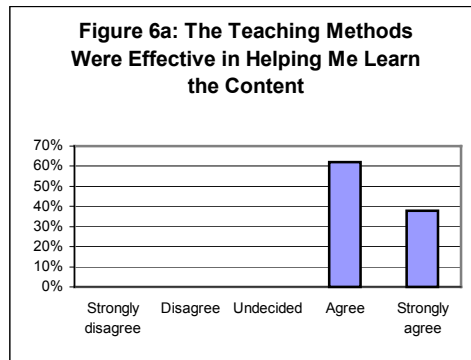
Standard 5: Effective presentation

The criteria used to assess the scholarship of application must be as potent as those that assess any form of teaching or publication. Programs must adhere to a high standard of teaching and contain a plan for

reporting and dissemination of project results. Further, the criteria applied to international outreach programs must be comparable across the general array of outreach programs offered at a university.

In the case of the Chilean Institute a standard evaluation form used by the Conference Center was employed to collect comparative data on participants views of teaching, while traditional publication venues such as journals, reports, and book chapters were used to disseminate information on the program. For example, a book was subsequently published by Kendall Hunt in both Spanish and English on the program, Integración de la Tecnología, and Integrating Technology to Enhance Teaching and Learning.

Figures 6a and 6b demonstrate one way to assess the quality of teaching that occurred in the program.



As can be seen from the data, the teaching methods and instructor when compared to an average of all programs conducted by the Conference Center, were highly regarded.

Standard 6: Reflective Critique and Lessons Learned

Finally, in learning from the process of outreach scholarship, critical reflection is necessary to assess what went right and what went wrong. Reflection promotes the intellectual engagement of both the participants, faculty and outreach professionals in connecting their experience to their own lives and scholarship. Reflective critique helps us to think about the nature and characteristics of the work and to move beyond the narrow confines of a project to the next steps.

As noted by Schon, reflection has long been used to enrich scholarship through helping to identify key learnings that become part of the larger intellectual quest. Reflective critique was used throughout the institute by the participants, faculty and outreach professionals. Structured reflection sessions using both written journals and oral discussion occurred daily during the first three days of project orientation and twice each week throughout the formal program.

As team members reflected on the assumptions about cultural and cross-national perceptions of teaching with technology underlying the stated project purposes, they note influences and inherent meaning at work behind the scenes. From the university perspective, the project was based on the assumption that the Chilean teachers had little access to technology training, although the ENLACES initiative had been underway for some time. Despite considerable effort, we were unable to ascertain their current level of technical knowledge in advance (prior to their arrival and completion of the pre-test), making curriculum

development for the Institute challenging. However, the Institute provided value in terms of integrating technology tools with methods of instruction so teachers could apply the tools to teaching and enhancing student learning. Comments from journals, video-taped interviews and discussions provided opportunities to reflect on these methods as well as other aspects of the program.

In contrast to the stated purposes of the Institute, the Chilean teachers also perceived themselves to be well prepared to teach in an integrated curriculum model and felt this was a strength they could share with their North American colleagues. The coordinator for the program shared the groups surprise that so few teachers, faculty and staff with whom they came in contact were aware of the basics of South American geography, history or politics. In contrast, the Chilean teachers appeared well versed in the history and politics of North America. This culturally nuanced perception reflects differences in the implication of the power relationships and the domination of the Western Hemisphere by North American cultures of schooling.

Although the three stated objectives of the Institute were successfully achieved, the cultural models that were carried in the minds of participants for interpreting and relating to the world around them were sometimes reflected in their journals. Participants were struck by what one teacher characterized as the “idiosyncrasies of North Americans.”

In reflecting on the journal and interview data several other important characteristics of the Institute were noted. The intensive time period of six weeks adequately allowed participants an opportunity to develop skills and explore new directions for their own teaching. A basic premise for the Institute was that the participants will build upon each other’s strengths to accomplish their individual project goals. The CD-ROM and web pages developed by the participants reflect this expectation. This link between process and outcomes of the Institute was seen as a fundamental strength in the program. Much of the critical reflection with the project partners centered around how the program processes (activities, topics, organization, scope, delivery, etc.) successfully led to specific program results.

The reflective critique of the program seems to indicate that the nature of the participant experience within the Institute reflects the nature of the program objectives and has led to valuable program impacts. All participants, faculty, and staff indicated that they achieved a broader understanding of Chilean and United States educational systems as a result of this international outreach project. Comments from the participants during the in-depth interviews indicated that the Institute helped provide insights into the use of technology in their own teaching practice. While program products (web pages and CD-ROMs) tended to be more individualized according to each participant’s interest, there were some common understandings woven through the Institute. First, participants felt that the interaction between the participants of the United States and Chile was an important contribution of the Institute. Diversity in opinions, international perspectives and the interdisciplinary focus provided the context for a wide possibility of social and academic interactions around the use of technology. Secondly, it was hoped by all participants that these interactions will provide valuable insights into future educational directions for both countries. In a journal entry during the Institute, a participant, wrote. “Through this program I feel that Chile extends its borders. The limits disappear and we are all united for the same flag - education, educate everybody.”

Discussion and Implications for the Future

The central question of assessment and accountability in international outreach programs becomes increasingly important in a time when we are concerned about securing our future in an interconnected global economy. Globalization has had a profound impact on higher education leading to what has been termed by some as a shift from a closed to an open system. This opening of the system includes a new educational vision of providing lifelong learning and access to those who were excluded in the past. Jan Sadlak and Peter Scott in The Globalization of Higher Education also provide a perspective on globalization and the concurrent challenges for higher education in the 21st century. Sadlak suggests that higher education institutions worldwide have particularly helped lay the foundation for globalization and they will continue to play a prominent role in how this concept will evolve. Whatever specific characteristics we tend to associate with the concept of globalization, whether it is an expression of new geopolitical entities or the ability to generate and use knowledge to extend human capacity and resources, globalization is embedded in the dominant curricular structure of higher education institution.

Global initiatives will remain part of outreach culture because they are topics of interest endemic to university faculty and community partners. As such, continuing educators will need to develop models to assess the accountability of international outreach programs. Public universities, particularly those with a land-grant mission, must seek to demonstrate the impact of international outreach. This article suggests one model for accountability and assessment that can be used to gauge the quality of these programs on the

academic communities in which they are situated. As illustrated in the example of the Chilean Institute, the work of the Carnegie Foundation, recent reports from the National Research Council and the accountability measures embraced by public schools can help inform outreach practice, expanding the larger base of knowledge on international outreach scholarship.

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