Exploring Misunderstanding in Collaborative Research Between a World Power and a Developing Country

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Abstract

This phenomenological study explored what principal investigators from the United States and Mexico experienced when engaging in cross-cultural collaborative research projects. Participants were asked to articulate their understanding of collaboration. While the principal investigators did not vary on how they defined quality of research; their perceptions of collaboration varied. An agreement of understanding how effective collaboration is operationalized is pertinent to the improvement of student learning.

Introduction

The United States and other countries are becoming increasingly interdependent upon one another to foster new knowledge production and economic stimulation of developing countries (Bonnema, 2006). While many institutions from countries that are considered to be economic world powers are seeking to partner with institutions from developing countries to engage in collaborative research, the expectations for such collaborative research may not be clear in all aspects of the research project and, therefore, it becomes increasingly difficult to determine whether the joint venture has been successful (Palomba & Banta, 1999; Suskie, 2004). For example, it may be clear to cross-cultural principal investigators, who sign on for a research project, what the research study will entail, however, the expectations may not be clear as to the extent or nature of the collaboration, and as to the scope of how the project's success will be identified by joint program administrators who may fund the research. As such, many misunderstandings may occur that could threaten the success of the current research project or the opportunity for continued research collaboration to occur (Montoya-Weiss, Massey, & Song, 2001).

The same concern for understanding how effective collaboration is operationalized in research can be applied to the improvement of student learning. Research has demonstrated that effective collaborations are needed in order to improve student learning (Bresciani, 2006; Maki, 2004; Palomba & Banta, 1999). If we can apply these findings to the outcomes-based assessment work that we do, particularly in the curricular and co-curricular, improvements can be made in the partnerships that are needed to inform the necessary decisions.

This study sought to understand what principal investigators and co-principal investigators experienced when engaging in cross-cultural collaborative research projects that were funded by a seed research grant project sponsored by a U.S.A. host institution. In particular, the notion of collaboration was explored from the perspectives of principal and co-principal investigators in the United States and those within several research universities in Mexico.

Methodology

A qualitative method was utilized for this study because a qualitative researcher's intent is to uncover "meaning" (Bogdan & Biklen, 1992). There are several methods by which to uncover meaning and many of them share the common goal of understanding the subject's perspective from the point of view of the subject. "Researchers in the phenomenological mode attempt to understand the meaning of events and interactions to ordinary people in particular situations." (Bogdan & Biklen, 1992). The participant's point of view thus becomes a research construct. Engaging subjective thinking, the participant's point of view becomes the reality; therefore reality comes to be understood to human beings only in the form in which it is perceived (Bogdan & Biklen, 1992).

Phenomenology was appropriate for this study as the researcher was attempting to uncover the meaning of collaboration as perceived by the participants of the collaborative grant funded research projects. Phenomenology allows the subjective view point of the study participant to be heard in the context of the participant's reality. In other words, in order to understand what collaboration is and how it would be demonstrated, the subject's perspective must be understood; her reality must be understood so that the meaning of words she uses to describe collaboration can be understood.

When Schutz (1970) developed phenomenology, he posited to depart from the experiential assumptions of the natural attitude - the "everyday interpretive stance that takes the world to be principally 'out there' separate and distinct from any act of perception or interpretation" (Holstein & Gubrium, 1994, p. 263). Because of this stance, the researcher must bracket (e.g., set aside) her orientation to the subject matter and focus on the ways in which the participants, who are living the experience, interpretively produce the collaboration they believe is real. In so doing, the participant's observations and experiences are often explained and demonstrated by the participant him or herself. "If human consciousness necessarily typifies, then language is the central medium for transmitting typifications and thereby meaning. This [epistemology] provides a methodological orientation for a phenomenology of social life concerned with the relation between language use and the objects of experience" (Holstein & Gubrium, 1994, p. 263).

Because there are often cultural misunderstandings involved in how meaning of words is defined and in how the meaning is identified (Oliva, 2000a: Oliva; 2000b), using phenomenology to extract what participants believe are the characteristics that embody collaboration based on their experiences makes sense. Phenomenology will allow the researcher to identify whether there is a context associated with certain characteristics of cross-cultural collaboration.

Social phenomenology rests on the principle that social interaction constructs as much as conveys meaning. "Schutz's social phenomenology aims for a social science that will interpret and explain human action and thought through descriptions of the reality which seems self evident to the people remaining within the natural attitude." (Holstein & Gubrium, 1994, p. 264) The goal of phenomenology is to explicate how objects and experiences, such as collaboration within research, are meaningfully constituted and communicated in the world of everyday life. Schutz's intention is to treat subjectivity as a topic for investigation in its own right, not as a methodological limitation.

In order to understand the meaning of cross-cultural collaboration, the following data were collected and analyzed using Moustakas (1994) and Polkinghorne's (1989) division of protocols into statements and then organizing the statements into clusters of meaning.

Data collection included the following:

1. Document analysis (Stake, 1995) of the U.S.A. host institution's Collaborative Research Grant Proposal criteria and the actual grant agreement (These are the formal documents that governed the review of proposals and the awarding of seed grant money for cross-cultural research projects);

2. Document analysis (Stake, 1995) of roundtable results from the October 28-30, 2004 Program Symposium on Research Outcomes held in Mexico City, where both Mexican and U.S.A. PIs and administrators were in attendance;

3. Interviews of preliminary institutional administrators from the U.S.A. host institution and the administrative liaisons in Mexico City;

Interview of principal and co-principal investigators (PIs) from the U.S.A. host research university and from the Mexico institutions

Interviews with the Mexican PIs took place during a December trip by the researcher and her graduate assistant to Mexico City. There were two single PI interviews lasting about two hours each and also a group PI meeting on the campus where the majority of research collaborations occurred, lasting approximately two and one-half hours. The three nights and three day trip also allowed for more experience and understanding of Mexican culture, understanding of work ethic, and collaboration expectations Interviews with the United States PIs took place by the researcher and her graduate assistant in two 45-minute group meetings on the U.S.A. Campus shortly after arriving back from the winter holiday break.

Sampling Procedure

It is unclear how to articulate the sampling procedure for this study as the 15 PIs and the four program administrators interviewed were selected by the U.S.A institution's Office of Latin American Programs and the selection methodology is unknown. Of further concern, is the limited time spent interviewing U.S.A. PIs and administrators, however, the researcher was not granted additional access beyond what was initially provided.

Given the nature of this sampling procedure, it may be best to describe the sampling procedure as

convenience sampling (Creswell, 1998). Convenience sampling simply states that those who are available for interviewing will be interviewed. Convenience sampling is often used when it is difficult for one reason or another to access the participants. One criterion for interviewing subjects in this study is that they had to have completed the research project that was funded by the host U.S.A. institution. Another criterion for participants was that they had to speak English as all interviews were conducted in this language.

In order for the collaborative research project to be recognized by the sponsoring U.S.A. institution and thus in order for the subjects to be included in this study, the cross-cultural grant proposals must be jointly developed by principal investigators from the U.S.A. research extensive university and research consortium member institutions in Mexico. The collaborative research projects received small seed grant funding from the U.S.A. host institution. Grant funding is available in all disciplines offered by the U.S.A. host institution. The majority of disciplines requesting and receiving the seed grants represented disciplines from science, engineering, and technology.

Study Findings and Discussion

Interviews and document analysis revealed findings that can be reported in four clusters of meaning:

1. Variance in Program Goals and Outcomes for the Research Program

2. Difficulty in Alignment of the Program Delivery to Program Outcomes

3. Cultural Differences in the Meaning of Collaboration

4. Challenges in Discussing the Next Steps

Each cluster of meaning will be explored in the following paragraphs.

Variance in Program Goals and Outcomes for the Research Program

At the conclusion of the interviews and document analysis, it was apparent that there were at least four perspectives of the research program goals. They are the goals of the U.S.A. institution program directors, the Mexican Research Consortium directors, the U.S.A. PIs, and the Mexican PIs. These four entities did share understanding of some goals, yet the operationalization of those goals or, in some cases, the end results of those goals were not entirely shared.

The goals of these four groups are not fully represented in Appendix A. However, Appendix A represents agreed upon goals of the administrators since the documents analyzed to create these goals were communications between administrators. The extent to which these goals were agreed upon by Mexican and U.S.A. principal and co-principal investigators varied. Further, the extent to which these goals are interpreted for the same meaning is varied or unclear. Not unlike what researchers have shown to be the case in other cross-cultural international endeavors (Oliva, 2000a; Oliva, 2002), it can be said that there are differing rather than uniform views of what this collaborative research program was intended to achieve.

The researcher was not able to flesh out the exact variance in goals of Mexican PIs and U.S.A. PIs. In some cases, it may be that the articulation of a goal is not clear. Or, it may be that in goal implementation, varying emphasis on goals may exist. Therefore, one goal may overshadow another, or one goal may lose its value and thus not be an agreed upon goal in operation at all. For example, while goals 6 and 7 are shared goals,

6. To link research with the private sector

7. To strengthen Mexican economic development through research

These goals appeared to be emphasized more by the Mexican research consortium and less emphasized by the U.S.A. host institution administrators, U.S.A. PIs, and Mexican PIs. While U.S.A. host program directors mentioned these as program goals, they did not appear as values to U.S.A. PIs. U.S.A. and Mexican PIs primarily were focused on generating new knowledge, regardless of use by industry. However, some Mexican PIs were interested in generating research knowledge that would be applied to industry. Those Mexican PIs who had an interest in applying their research to industrial solutions came from the engineering and technology disciplines.

While it was evident that some Mexican PIs appeared to be more concerned with the applied aspect of their research than did U.S.A. PIs; the question of whether the research could be applied within the time frame to determine success for the program was of concern. In other words, would being able to identify whether research was applied to industry be possible within the time frame of a one or two year program evaluation plan to determine success of the collaborative research project?

When different goals are present within a program, it does not mean that that the program is impossible to evaluate for its success. However, it does pose challenges when attempting to identify the success of the program or more specifically, when attempting to identify where the program is successful and where it is not (Palomba & Banta, 1999; Suskie, 2004).

In Appendix A, some shared goals have been articulated. In Appendix B, are included some shared outcomes. However, as previously mentioned, emphasis on these goals and outcomes varied and thus the question of whether they were truly shared is suspect. For example, Mexican PIs felt more expectations to achieve shared outcome number 10 "a. Research findings will be presented to appropriate businesses and b. Research findings will inform at least one Mexican and U.S.A business development" than did U.S.A. PIs. While this is indeed an agreed upon program outcome, whether the collaborative research program should be evaluated on the basis of such an outcome was debated by both U.S.A and Mexican PIs.

It was inconclusive as to whether: (a) there were agreed upon goals and a lack of understanding of the operationalization of those goals, or whether (b) there was a prioritization of certain goals above others. For example, most U.S.A. PIs thought that it was a clear goal of the program for them to generate publications. Mexican PIs felt this also, but some Mexican PIs did not feel that generating publications was more important than making sure that their research was applied to industry. U.S.A. PIs did not seem to think that applied research was truly necessary. Regardless, some PIs disagreed with many of the stated outcomes in Appendix B. Both Mexican and U.S.A. PIs wanted clearer and more explicit program goals and outcomes to be delineated for them.

Align Program Delivery to Program Outcomes

In understanding the program goals and outcomes, it is very helpful to be able to tie or map the delivery of the outcome to the outcome itself (Bresciani, Zelna, & Anderson, 2004; Maki, 2004; Suskie, 2004). Doing so helps the one evaluating the program to identify naturally occurring (Ewell, 2003) means of assessing the program and more importantly, it helps the one delivering the outcomes to ensure that there is a way in which the program goal is being delivered and a way in which its success will be identified (Bresciani, 2003).

Because it was not clear how the program goals were delivered, apart from PIs completing a proposal and being funded, the research team was not able to align several program outcomes to the delivery of those outcomes. For example, it was not clear how such outcomes as "U.S.A researchers will be able to articulate the high quality of Mexican research protocols and equipment" and "United States researchers will be able to articulate values of the Mexican culture and the impact of those values on Mexican research in the sciences" (see Appendix B) are being delivered. In other words, if these are expectations of either the PIs or the joint research program directors, how do they know these expected outcomes are being taught; where are they being learned; and where are they being realized?

Cultural Differences in the Meaning of Collaboration

Even when goals were agreed upon and the priority of their importance was agreed upon, the researchers found differences in how Mexican and U.S.A. PIs defined collaboration. Confusion of what collaboration may mean and how it would be identified has been a reported phenomenon of many cross-cultural endeavors (Montoya-Weiss, et al., 2001; Simcox, Nuijens, & Lee, 2006). The criteria for collaboration found in Appendix C were formulated primarily by the Mexican PIs during this study. Mexican PIs appeared more concerned with defining and developing a collaborative relationship than did the U.S.A. PIs.

While the TAMU research team was immersed in Mexican culture for three days, it became apparent that the formation of a deep and meaningful relationship between the Mexican PIs and the research team would have enhanced the data gathered. Nonetheless, the time spent revealed that collaboration to the Mexican PIs meant more than just equal commitment to time on task; it meant spending time getting to know the people involved in the research, forming friendships of trust, and being equal partners in carrying out the research. These values have been expressed in other collaborative partnerships

with Mexican scholars (Oliva, 2000a; Oliva, 2000b). To Mexican PIs, collaboration meant establishing a relationship of trust on which the research could be built. To U.S.A. PIs, it generally meant getting the work done together. In other words, U.S.A. PIs did not feel they needed to get to know the Mexican PI personally, get to know their family, or culture; they just wanted to focus on the research itself. Kyong-Jee and Bonk (2002) discovered these same phenomena in American PIs in their study of collaborative intercultural work. They noted that Americans tended to focus on the task at hand, rather than taking advantage of opportunities to build relationships with their cross-cultural colleagues.

It appeared that those who had already established relationships through international conferences considered themselves successful in collaborating on the research. Those who were trying to build collaborative relationships in order to conduct the research found the time limitations of the research project deadlines constraining on the formation of their relationships. For example, one U.S.A. PI reported, "It would have been helpful to establish a relationship prior to writing a proposal for research." A Mexican PI reported that it would have been helpful to be able to meet face to face during the writing of the proposal as well as meeting face to face in gathering the data and writing the research report.

Further, many of the Mexican PIs felt they had to spend time in the research partnership educating U.S.A. PIs that they could be equal intellectual partners. While the U.S.A. PIs shared that they did not feel any inequity in the partnership in regards to intellectual contribution or in regards to what quality research was and how it looked; they did feel that the Mexican PIs were disadvantaged with quality of research equipment. The researcher posited that it may be the U.S.A. PIs concern for shared resources and technology that may have been received by the Mexican PIs as a potential challenge to their ability to contribute to the research. To put this more bluntly, could it have been that the Mexican PIs felt that when the U.S.A. PIs questioned them about the type of technological support they would have to conduct the research that they felt their intellectual ability was being challenged?

In regards to collaborating on the research project, none of the researchers reported feeling that they did more work than their counterparts; however, there appeared to be a few challenges around the meaning of work ethic. Mexican PIs could not understand why U.S.A. PIs did not take time to better understand who they were, why the research was important to them, and how they conducted their work within their family and community. U.S.A. PIs voiced frustration in what they perceived as delayed response time from the Mexican PIs. While the U.S.A. PIs stated that the delayed response time was frustrating, they assumed it was due to the poor working conditions of their colleagues or their difficulty obtaining resources to complete their portion of the research. The Mexican PIs did not feel that they were delaying in responding. Rather, they were taking time to reflect on the work within the context of their family and culture. Thus, collaborative work ethic was not viewed in the same manner by the majority of U.S.A. PIs and Mexican PIs. Regardless of the possible interpretations of meaning that the researcher is positing, it is clear that misunderstanding of meanings was evident in many of these collaborative relationships (Oliva, 2000a; Oliva, 2000b).

Challenges in Discussing the Next Steps

Both Mexican and U.S.A. PIs considered the research project a success when their work had been accepted for publication in their discipline appropriate high quality research journal. While all PIs interviewed had successfully published their work and all reported satisfaction in the research findings and the quality of the work completed; not all were satisfied with the journals they published in, nor were they satisfied with the next steps in the study.

Some of the PIs, those who had formed relationships at professional conferences prior to the commencement of this joint research project, were planning to continue their collaborative research. The other PIs were not. Once the terms of the U.S.A. host institutional grant were completed (e.g., the successful conclusion and publication of the research that was funded by the host institution); the U.S.A. PIs were not interested in pursuing additional research as they reported very few, if any, funds available to continue to finance the joint research projects. Both Mexican and U.S.A. PIs appreciated the publications that resulted from the joint research, but they were equally frustrated by the lack of funding available from the U.S.A. federal government, the Mexican government, the U.S.A. host institution, or the Mexican research consortium to further the collaborative research. Thus, apart from the misunderstandings that prevailed, the majority of PIs wanted to continue the research since they were pleased with the quality of their results' however, additional funding (e.g., funding beyond the seed stage) was not available and

therefore, PIs, particularly U.S.A. PIs did not want to pursue the collaborative work. Many of them felt they would have a better chance of getting funding if it were a U.S.A. PI led project only.

One further concern of most of the Mexican PIs was the expectation that they must apply their research to improving the Mexican economy. Many Mexican PIs were concerned with the practicality of applying their research to industry as quickly as seemed to be required by the Mexican Research Consortium, a partner in the grant agreement. The Mexican PIs just simply did not think it was possible to move from a focus of generating new knowledge to application of that knowledge. The U.S.A. PIs did not share this concern, nor did they feel the expectation to apply the research. U.S.A. PIs were simply interested in obtaining additional grant funding to continue their research.

As previously mentioned, there was interest in both Mexican and U.S.A. PIs to continue collaborative research; however, the ability to identify funding for on-going collaborative research was not apparent. Thus, the U.S.A. PIs felt that their only choice was to continue on without their Mexican partners as they perceived they had a better chance to gain grant funding without them.

Considerations for Future Research and Program Improvements

Continuing this type of research in collaborative intercultural partnerships may help those involved in such projects to identify where PIs are misunderstanding expectations and meaning of words. While phenomenology's intent is to simply understand what has occurred and therefore, findings are not generalizeable, the researcher posits a few suggestions that may be considered for administrators intending to design a program for cross-cultural research collaboration.

Variance in Program Goals and Outcomes for the Research Program

In order to address the findings and questions surrounding whether there were agreed upon goals and outcomes, it may be helpful for the program administrators, from both the Mexican research consortium and the host institution to seek consultation from PIs about the goals of the program and how those can be clearly articulated. In articulating the goals, specific outcomes could be identified as well as appropriate means to evaluate these outcomes. In doing so, program administrators may be able to identify the areas of disagreement and determine whether the disagreements in program goals will significantly hinder the expectations of the collaborative research partnership.

However, this presupposes that faculty members would be concerned with the "success of the program" in the same manner that administrators would be. It may be more typical that faculty members would be entirely focused on the success of their collaborative effort (their research project) and may not consider the nature of the program that is funding them. This may mean that more needs to be done by program administrators to communicate the importance of having the success of the program be held as a common objective by all and to all those involved in the join research projects.

It is plausible that with the refinement of an assessment plan for this program, program administrators can clarify the priority of the program goals so that PIs know whether it is more important to the success of the program for them to generate publications or generate contacts for applying their research to industry. Yet, given the aforementioned concern that faculty and administrators may not share outcomes for program success, faculty may remain primarily interested in whether their own research projects generate new knowledge and publications (e.g., the outcomes for which U.S.A. and many other countries' faculty are individually rewarded).

Once an assessment plan has been refined, and goals and outcomes clearly articulated, the communication of this assessment plan to potential PIs may help clear any misunderstandings that have occurred in the past. Once an assessment plan has been written, the goals, outcomes, and means of evaluation will help those participating to understand clearly the expected outcome of their participation and how it will be evaluated. Finally, with the clear articulation of goals and any variance in prioritization of those goals, PIs may feel less unsure about the value of their own engagement in the program, and be able to recruit additional PIs to participate in the program more easily.

Difficulty in Alignment of the Program Delivery to Program Outcomes

It may help the assessment of this program and the clarification of goals for the administrators to align the goals with the outcomes and the means to deliver those outcomes. In articulating the design to deliver the outcomes, the administrators may be able to identify additional means of evaluating the program other than those represented in Appendix A, B, and C. For example, in the host institution goal

number 1, "to engage in collaborative research with Mexican scholars," the outcome tied to this goal could be, "U.S.A. researchers will report a high level of satisfaction of engagement in collaborative research with Mexican scholars." If this is an outcome of the program, how are U.S.A. and Mexican PIs taught about collaboration? What does it mean? How is it embodied? What would it look like if it occurred? How would it be identified?

Answering these types of questions could help the program administrators and PIs clarify the goals and outcomes of the program, identify whether or not they are being delivered, and provide clues as to how the outcomes can be more meaningfully evaluated. For example, if collaboration is being taught in an introductory workshop, then case studies that teach about multi-cultural collaboration can be utilized as an assessment tool as well as a teaching tool. In addition, at the end of the research experience, the PIs could rate the extent that collaboration occurred.

Cultural Differences in the Meaning of Collaboration

It may be helpful for the program to consult with both Mexican researchers and U.S.A. researchers in order to construct definitions for collaboration and quality that extend beyond the definitions that prevail in either culture. With facilitation from those who may be bi-cultural or well versed in each culture, PIs may be able to jointly define collaboration and quality in order to advance the program's goals and to continue in cross-cultural research beyond the life of the seed grant.

However, as illustrated by the earlier two points, simply defining collaboration is not enough to ensure collaboration. Articulation of collaboration as program goals and outcomes implies that PIs will have an opportunity to learn what that looks like and to practice in its identification. Further, it may be wise to have interventions available that mitigate problems that may arise from cross-cultural understanding so that research could be further enhanced.

Challenges in Discussing the Next Steps

When refining the assessment plan and implementing it, it may be helpful for program administrators to identify publications where collaborative international research is encouraged, as well as to identify additional funding resources so that PIs can determine more quickly, how suitable their proposals will be for submitting to certain publications and grants. The potentially variable needs of researchers from the two countries need to be taken into account in establishing the common outcome expectations.

To date, there is no known research grant program that fully and consistently funds collaborative international research. While there may be grants that do fund this type of research in order to build the collaboration, the lack of funding available for sustaining collaborative international research may result in seed grant money for intercultural collaborative research not being able to be continued. Grants that fund ongoing collaborative international research should be identified so that PIs can continue their research. Furthermore, several PIs shared concerns about transfer of funds. The frustration voiced by both Mexican PIs and U.S.A. PIs with the transfer of program funds illustrates that some of the inner workings of the program may need to be evaluated in order for optimal work environments for PIs to be realized. The time allotted for this research project did not allow the researchers to investigate this phenomenon further and thus it did not emerge in the cluster of meanings. However, the majority of PIs struggled with the cross-border management of the funds.

Given different business processes of the two countries and its apparent negative impact on the transfer of funds, it is important to determine whether other cross-national business and program implementation operations are keeping the program from meeting its goals for collaboration.

While this study uncovered that principal investigators in different countries perceived collaboration differently, one may wonder how scholars in varying disciplines approach effective collaboration. In an environment where collaboration is needed to improve student learning (Bresciani, 2006; Maki, 2004; Palomba & Banta, 1999), it may benefit institutions to investigate how professors perceive collaboration in order to improve student learning. In addition, institutions may be encouraged to explore how professors and co-curricular professionals view the need to work together in order to improve the whole student educational experience. It is this researcher's hope that this methodology may be replicated in a number of venues in order to uncover meaning around perceptions of collaboration that will be used to improve student learning.

References

Bogdan, R.C. & Biklen, S.K. (1992). *Qualitative research for education.* New York: Allyn and Bacon.

Bonnema, A.B. (2006). Developing institutional collaboration between Wageningen University and the Chinese Academy of Agricultural Sciences. *NJAS Wageningen Journal of Life Sciences*, *53*, 369 -386.

Bresciani, M. J. (Ed.). (2007). *Good practice case studies for assessing student learning in general education.* Bolton, MA: Anker Publishing.

Bresciani, M.J. (2003, December). Identifying projects that deliver outcomes and provide a means of assessment: A concept mapping checklist. *National Association for Student Personnel Administrators, Inc NetResults E-Zine.* http://www.naspa.org/membership/mem/nr/article.cfm?id=1291

Bresciani, M.J., Zelna, C.L., Anderson, J.A. (2004). *Techniques for assessing student learning and development: A handbook for practitioners.* Washington, D.C.: NASPA, Inc.

Creswell, J.W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: Sage.

Denzin, N. & Lincoln, Y. (Eds.). (1994). *Handbook for qualitative research.* Thousand Oaks, CA: Sage.

Ewell, P. T. (2003). *Specific roles of assessment within this larger vision.* Presentation given at the Assessment Institute at IUPUI. Indiana University-Purdue University- Indianapolis.

Holstein, J.A. & Gubrium, J.F. (1994). Phenomenology, ethnomethodology, and interpretive practice. *Handbook for Qualitative Research.* Thousand Oaks, CA: Sage.

Kyong-Jee, K. & Bonk, C.J. (2002, October). Cross-cultural comparisons of online collaboration. *Journal of Computer-Mediated Communication*, *8* (1). Retrieved September 25, 2006, from http://jcmc.indiana.edu/vol8/issue1/kimandbonk.html

Maki, P. L. (2004). *Assessing for learning: Building a sustainable commitment across the institution.* Sterling, Virginia: Stylus Publishing.

Montoya-Weiss, M. M., Massey, A. P. & Song, M. (2001). Getting it together: Coordination and conflict management in global virtual teams. *Academy of Management Journal, 44*(6), 1252-1262.

Moustakes, C (1994). *Phenomenological research methods.* Thousand Oaks, CA.: Sage.

Oliva, M. (2000a). Cooperación vs. integración: Fundamentos distintos de la colaboración norteamericana en educación superior. *Interciencia: Revista de Ciencia y Tecnología de América, 25* (2), 96-102.

Oliva, M. (2000b). Shifting landscapes/shifting langue: Qualitative research from the in-between. *Qualitative Inquiry*, *6(1)*, 33-57.

Oliva, M. (2002). Perspectives on collaboration: Deconstructing North American higher education cooperation. *Planning and Changing, 33* (1 &2), 29-52.

Palomba, C. A., & Banta, T. W. (1999). *Assessment essentials: Planning, implementing, improving.* San Francisco: Jossey-Bass.

Polkinghorne, D.E. (1994). Reaction to special section on qualitative research in counseling process and outcome. *Journal of Counseling Psychology, 41*, 510-512.

Schutz, A. (1970). *On phenomenology and social relations.* Chicago, IL: University of Chicago Press.

Simcox, A.G., Nuijens, K.L., C.C. (2006, April). School counselors and school psychologists: Collaborative partners in promoting culturally competent schools. *Professional School Counseling*, *9*(4), 272-277.

Stake, R.E. (1995). *The art of study research.* Thousand Oaks, CA: Sage Publications.

Suskie, L. (2004). *Assessing student learning: A common sense guide.* Bolton, MA: Anker Publishing Company, Inc.

Appendix A

Goals of the Collaborative Research Program

Goals:
Based on initial interviews and document analysis, the following 'represents the goals and values of the program from the USA host, from the Mexican Research Consortium, and from both organizations which are labeled as *Shared*.

Shared:
1. to provide a competitive, peer reviewed collaborative research grant program
2. to advance the inter-institutional cooperation in science, technology, and scholarly activities
3. to equally advance the research efforts of scientists and scholars from USA host institution and Mexican Institutions
4. to provide seed funding for research start-up
5. to conduct quality research so that research projects are eligible for additional funding from external funding sources
6. to link research with the private sector
7. to strengthen Mexican economic development through research
8. to engage in research that solves an industrial or governmental problem
9. to promote collaborations between the USDA and Mexican equivalent of USDA through large, multiple university projects
10. to move successful research into entrepreneurial opportunities
11. to develop the continent's capacity for improvement in technology, science, and human capital

USA Host Institution:
1. to engage in collaborative research with Mexican scholars
2. to gain experience in applying for grant funded research

Mexican Research Consortium:
1. to engage in equitable collaborative research with USA scholars
2. to develop relationships that advance Mexican institutional research
3. to educate researchers from the United States about Mexican culture
4. to establish a successful agenda of research with the USA host institution so that it can be expanded to other premiere research institutions in the USA
5. to educate USA researchers about the high quality of Mexican research protocols and equipment

Appendix B

Intended Outcomes of the Collaborative Research Program

Outcomes:

Shared:

1. a. Program administrators will provide a competitive, peer reviewed research grant program
   b. Program administrators will provide a collaborative research grant program
2. a. Funded research grants will contribute to new knowledge for both partner institutions in the areas of science and technology
   b. Researchers participating in the program will report a mutually collaborative relationship with each other
   c. Researchers participating in the program will report a mutually collaborative relationship from the partner institutions
3. a. Researchers participating in the program will report a mutually beneficial relationship with each other
   b. Researchers participating in the program will report equity in research contributions to the   project
4. Researchers will receive grant funding for their proposed research
5. a. The research reports will be rated as quality according to report reviewers
   b. Researchers will apply for additional grant funding from other foundations
   c. Researchers will be awarded additional grant funding from other foundations
6. Researchers' findings will be publicly recognized by the private sector
7. Researchers' findings will aid in the solution of an industrial or governmental problem
8. a. Research findings will be presented to appropriate economic development agencies.
9. a. Appropriate research findings will be presented to the USDA and the Mexican equivalent of USDA
   b. The USDA and the Mexican equivalent of USDA will respond to the research presentations with suggestions for future developments in the research
10. a. Research findings will be presented to appropriate businesses.
    b. Research findings will inform at least one Mexican and USA business development
11. This goal will be met through shared outcomes 8, 9, and 10, and Mexican Research Consortium outcomes 2 and 4.

USA Host Institution:

1. USA researchers will report a high level of satisfaction of engagement in collaborative research with Mexican scholars
2. a. USA researchers will report a positive gain in experience in applying for grant funded research

Mexican Research Consortium:

1. Mexican researchers will report a high level of satisfaction for equitable collaborative research with USA scholars
2. a. The research results will be published in a scholarly journal
   b. The researchers will present their findings at a scholarly conference
   c. Findings from four years of collaborative research with USA Host Institution will be presented to at least five other research institutions in the hopes of securing another institutional partner
   d. Research findings will inform at least one Mexican and USA economic development
3. United States researchers will be able to articulate values of the Mexican culture and the impact of those values on Mexican research in the sciences.
4. a. USA Host Institution administrators will report that the USA Host Institution – Mexican Research Consortium relationship has produced successful research projects
   b. Mexican Research Consortium administrators will report that the USA Host Institution - Mexican Research Consortium relationship has produced successful research projects
   c. USA Host Institution and Mexican Research Consortium administrators will co-present the findings of the summary of the collective research at scholarly conferences
   d. USA Host Institution and Mexican Research Consortium administrators will publish the

e. USA Host Institution and Mexican Research Consortium administrators will co-present the findings of the summary of the collective research to at least five other institutions annually in an n effort to promote further inter-institutional collaboratio

f. USA researchers will be able to articulate the high quality of Mexican research Appendix Criteria for Defining Collaboration in Cross-Cultural Studies

Criteria for Defining Collaboration in Cross-Cultural Studies

Collaborative Research

50/50 split of the work load
Good working relationship
Good friendship
High quality work produced
Understanding of each others' research goals
Trusting relationship
Time-management utilized
Positive attitude kept throughout course of research project
Task-focused
Well-prepared
Equal exchange of research
Good communication
Work funding received and utilized in a timely manner
Good work ethic demonstrated