CONSTRUCTING SUCCESS IN A VIRTUAL FACULTY TEAM: A STUDY IN INTERNATIONAL COLLABORATION

by

V. J. MCCLENDON

(Under the Direction of Mary Ann Fitzgerald)

ABSTRACT

Technology has become a ubiquitous tool in education in many countries around the world. Despite a technology investment of $6 billion in U. S. higher education (Jones & Paolucci, 1999), debate regarding technology usefulness has continued in the field of Instructional Technology (Sheekey, 2003; Cuban, 2001). Increasing authentic uses of technology for students and faculty is one way to illustrate the value-added by such educational tools. Working together in a virtual faculty team (VFT), American and Brazilian members of an international multicultural exchange grant used a combination of collaborative online tools to construct project success. This qualitative study sought to understand how an existing virtual faculty team collaborated and constructed perceptions of success throughout this study. Despite various technology and practical problems, participants agreed that levels of success were achieved in terms of grant goals as well as additional personal measures of success. Communication and organizational management assisted in developing such success through information sharing and collaboration. Success markers included increased cultural awareness, student collaboration and relationship building, and personal and professional connections between universities and among local partner schools. The virtual faculty team persevered
beyond the scope of project funding, in contrast to "global virtual teams" (Jarvenpaa & Ives, 1994, p. 26), a business model, which characterized such groups as event-related and temporary in nature. Recommendations for practice include group flexibility and planning for success, potentially increasing satisfaction and sustainability for future virtual faculty teams.

INDEX WORDS: Virtual Faculty Teams, Virtual Teams, Collaboration, Technology, Success, Qualitative Research
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To DC and Brasil.

<table>
<thead>
<tr>
<th>Memorias do Brasil</th>
<th>English Translation</th>
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<tr>
<td>Ventos adentrar minha janela</td>
<td>Breezes in my window,</td>
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<tr>
<td>Através das palmeiras e cajueiras</td>
<td>Through the palms and caju trees</td>
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<tr>
<td>Electricidade zumbindo e cintilando</td>
<td>Electricity humming and popping</td>
</tr>
<tr>
<td>Nos fios</td>
<td>In the lines</td>
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<tr>
<td>Homens bebendo e gritando</td>
<td>Men drinking and yelling</td>
</tr>
<tr>
<td>Sobre futebol e a vida</td>
<td>About football and life</td>
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<tr>
<td>“Dona, me ajuda?”</td>
<td>Lady, help me?</td>
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<tr>
<td>olhos grandes, mãos sujas</td>
<td>Eyes big, hands dirty</td>
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<tr>
<td>Nuvens deslizando através do cêu escondendo a lua</td>
<td>Clouds sliding across the sky</td>
</tr>
<tr>
<td>Lixo na rua, saltando e rolando</td>
<td>Hiding the moon</td>
</tr>
<tr>
<td>Pavimento quebrado e empoeirado</td>
<td>Trash in the street, hopping &amp; rolling</td>
</tr>
<tr>
<td>Guardas atrás de barras</td>
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<tr>
<td>Rostos esculpidas e sem movimento</td>
<td>Faces carved and motionless</td>
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<td>Casais nas bicicletas</td>
<td>Couples on bicycles</td>
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<td>Topicis cheio com cotovelos</td>
<td>Vans full of elbows</td>
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<tr>
<td>Suor escorrendo meu corpo abaixo</td>
<td>Sweat trickling down my body</td>
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<tr>
<td>Camisa grudando no banco – segura!</td>
<td>Shirt sticking to the seat – hold on!</td>
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<tr>
<td>Moreno ríspido, labios mocha suave</td>
<td>Tough brown skin, soft mocha lips</td>
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<tr>
<td>Cheiro de sabonete e de esgoto</td>
<td>Smell of soap and sewage</td>
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<tr>
<td>Carne cozinando na rua</td>
<td>Meat cooking in the street</td>
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<td>Churrasco na esquina</td>
<td>Restaurant on the corner</td>
</tr>
<tr>
<td>Cerveja bem gelada</td>
<td>a fine cold beer and</td>
</tr>
<tr>
<td>Uma mesa bem fresquinha</td>
<td>a table with fresh air</td>
</tr>
<tr>
<td>Gritas “aqua de coco!”</td>
<td>Calls of coconut water</td>
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<tr>
<td>Dez centavos, por favor senhora?</td>
<td>Do you have a dime, please ma’am?</td>
</tr>
<tr>
<td>Sombra de postes telefônicos</td>
<td>Shade of a telephone pole</td>
</tr>
<tr>
<td>Através da cara escura</td>
<td>Across a dark face</td>
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<tr>
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<th>Lovers kissing beside</th>
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<tr>
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<td>Taxi drivers playing checkers</td>
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<tr>
<td>Pedintes revirando o lixo</td>
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</tr>
<tr>
<td>Lágrimas salgadas na minha face</td>
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</tr>
<tr>
<td>Coisas perdidas</td>
<td>Things lost</td>
</tr>
<tr>
<td>Mas nunca possuídas</td>
<td>But never owned</td>
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ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

Computer technology and computer-mediated communication have grown rapidly over the past twenty years, and will most likely continue to affect our ways of working, teaching, and learning. This change, largely brought about by Internet technologies, is evidenced by the growing number of global users. As of December 2007, there were 1.3 billion documented users of the Internet (Miniwatts Marketing Group, 2008). Friedman (2006) proclaims that the Internet and its Web capabilities are systemically flattening our entire world, speeding the exchange of international goods and services. According to Friedman, more than ever before, “the spread of the Internet and the coming to life of the Web” (p. 91) connects a record number of people and businesses. Castells (2000) argues, “We have entered a truly multicultural, interdependent world, which can only be understood, and changed, from a plural perspective that brings together cultural identity, global networking, and multidimensional politics” (p. 27). This globalization sets the stage for a continued expansion of the use of Internet technologies in business, social and educational contexts.

The facilitation of globalization via the Internet and communication technologies can be interpreted as “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa” (Giddens, 1990, p. 64). This commerce and information sharing are no longer limited by distance and time thanks to new and evolving technologies. By
2001, more than 80 percent of business and industry worked as a globally distributed workforce (Richman, Noble, & Johnson, 2002).

Bridging time and space, communication technologies and tools have also become widely used in educational settings. In the 1990s the Internet and computer technologies – such as productivity software, email, PDAs, and chat applets – were embraced as a part of the modern learning environment, evidenced by an investment of over $6 billion in higher education technologies in the United States alone (Jones & Paolucci, 1999). Nevertheless, debate has continued over the usefulness of technology in the classroom. This debate focused in Cuban’s (2001) Oversold and Underused, and rebuttals such as Sheekey’s (2003) How to Ensure Ed/Tech is not Oversold and Underused. They, along with educational leaders, have called for evidence of the value provided by digital technologies. Some instructors, particularly those engaged in distance education, have met this call by using innovations such as synchronous and asynchronous classroom platforms, virtual office hours via instant messaging tools, and a host of other emerging communication applications. These distance educators may be considered a community of practice (CoP) (Wenger, 1998b), engaging in problem solving, information sharing, and reusable assets. Many former critics now acknowledge that technology can enhance community sharing and teamwork.

In a related application of teamwork, faculty have begun to develop technology-enabled partnerships over great distances. These faculty partnerships facilitate student multicultural engagement, authentic virtual team management experience, collaborative curriculum development, sharing of research across geographical boundaries, and social connections with other scholars (Walker, Golde, Jones, Bueschel, & Hutchings, 2008).
Although substantial research exists in the areas of collaboration, computer-supported collaboration, and various types of teamwork, no published study currently addresses faculty collaboration as a virtual team. The purpose of this study was to help fill this gap in the literature by focusing on how experienced distance educators worked with colleagues at distant locations as a virtual faculty team (VFT) to manage an international student exchange project. In addition to studying the mechanisms and relationships created by the VFT participants, another focus of this study was team persistence or success, suggesting a willingness to continue or replicate such professional collaboration. I chose to focus on success, often termed as goal setting and attainment, as one assessment of participant satisfaction. This decision reflects the common use of success as a measure of team efficacy and performance in the literature (e.g., Crown, 2007; Forrester, Thoms, & Pinto, 2007; Hardin, Fuller, & Davidson, 2007; Weiband, S., 2008). Specifically, participants were asked to elaborate on personal and project goals for collaborating with others over distance and to reflect on the use of technology in this collaborative work. In this study, my interests focused on establishing connecting, foundational literature for virtual faculty teams, documenting the processes of the VFT, and identifying implications for other virtual faculty teams.

**Background**

This research study was conducted within the context of an existing grant-funded partnership. In 2003, the Fund for the Improvement of Postsecondary Education (FIPSE) and its Brazilian counterpart (CAPES) jointly funded a project called *Emerging World Perspectives* (EWP)\(^1\). The EWP grant proposed eight goals:

---

\(^1\) The Fund for the Improvement of Postsecondary Education, a division of the U. S. Department of Education, in partnership with Centro de Aperfeiçoamento de Pessoal de nível Superior in Brazil (CAPES).
1. Establish a framework for cooperation between the four institutions, including the formation of a cooperative agreement detailing student and faculty exchange.

2. Obtain approval for a certificate in technology integration with a multicultural perspective that will be adopted by all institutions. Courses that compose the certificate will benefit from distance learning technologies and will be jointly developed by faculty and students in all four institutions.

3. Motivate students to obtain a level of proficiency in a widely spoken foreign language while experiencing cultural immersion through courses and field experience.

4. Implement a curriculum that focuses on international collaboration in the classroom using distance education, building on the strengths and know-how of the participating institutions.

5. Foster in-country partnerships within the U.S. and Brazil.

6. Involve faculty and education students in the analysis, design, development, and implementation of the curriculum, providing for direct application within their fields of interest.

7. Create apprenticeship opportunities for exchange students to promote the collaboration between education students and local K-12 practitioners in field implementation of technology in the classroom.

8. Promote long-term relationships between exchange students and practitioners in the host country, and within countries.
The faculty mentioned in these goals consisted of principal investigators (PIs), lead faculty, course instructors, and teaching assistants; together, they formed the VFT membership. Teamwork centered on managing university connections and implementing student exchanges between the U.S. and Brazil. The VFT partnership involved two universities in the United States, the University of Southern State (USS) and West State University (WSU), and two universities in Brazil, Universidade Federal do Norte (UFN) and Universidade Estadual Rosario (UER) (see Table 1.1). All university names are pseudonyms. To ease the burden of the reader, Appendix A provides a glossary of abbreviations used herein.

Table 1.1

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Initials</th>
<th>Country</th>
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<tbody>
<tr>
<td>University of Southern State</td>
<td>USS</td>
<td>Oakley, U.S.</td>
</tr>
<tr>
<td>West State University</td>
<td>WSU</td>
<td>Ephraim, U.S.</td>
</tr>
<tr>
<td>Universidade Federal do Norte</td>
<td>UFN</td>
<td>Muricema, BR</td>
</tr>
<tr>
<td>Universidade Estadual Rosario</td>
<td>UER</td>
<td>Campos, BR</td>
</tr>
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</table>

Project universities were internationally (or bilaterally, as stated in the grant documentation) paired. That is, USS exchanged students with UFN, and WSU exchanged students with UER. In 2003, initial university agreements and courses, largely created by the USS team, were provided to WSU, UFN, and UER and later adopted at each university. In 2004, four students were exchanged successfully between the universities as a pilot. The fall of 2005, henceforth referred to as the major exchange period, represented the critical semester for exchange and collaboration in the grant project.

This study was designed to examine the team efforts during this major exchange period beginning in June 2005 and ending in December 2005, during which time I
simultaneously worked in Brazil as a team member and collected data. (For a more
detailed description of the project, see Appendix B). During this period, each of the two
Brazilian institutions sent five students to the partner institutions in the United States. The
American universities reciprocated by sending eight students to the Brazilian partner
institutions. Universities exchanged a total of 38 students during the grant’s
implementation.

The VFT expected to plan, coordinate, and implement the overall project, while
individual members managed specific details at home institutions. This management
included establishing course details locally. The four-course plan included the following:

- multicultural course
- design and development tools course (called the tools course)
- field-based theory and practice course (called the field course)
- elective course (student choice).

These four courses were designed to integrate critical theory into multicultural reflection,
instructional technology design, and field project implementation within an immersive
study abroad experience. (For more detailed course information, see Appendix C.)

The project provided preservice teachers with an authentic opportunity for
cultural and language immersion, as well as hands-on experience in international
technology integration while collaborating with inservice teachers. These settings
stimulated students to use their skills and abilities to solve challenging classroom
scenarios. In addition, reflection played a critical part in their coursework, allowing
consideration of students’ own cultures. Throughout this process, a guiding project goal
was the creation of lasting relationships between faculty, universities, teachers, schools,
and students. An underlying goal of the project was to foster an appreciation for multiculturalism as a mechanism for educational reform (Amiel, McClendon, Orey, 2007).

To carry out these democratic, multicultural, and transformative goals, the team needed to develop collaborative strategies for daily operations, management decisions, and problem solving. Thus, on an operational level, the team needed to consider paths and mechanisms for achieving personal and project success. This project’s broad scope and complexity presented many possibilities for investigation. As goal achievement and success are often linked in literature on communication, communication tools, and team relationship development (e.g., trust, workflow processes), I wondered if participants would list any of these topics as mentioned in the literature as successes. Finally, I wanted to see if participants’ senses of accomplishment were shared between participants or linked to stated grant goals.

Statement of the Problem

Communication barriers exist even under optimal conditions, including face-to-face scenarios, which are considered to be the richest medium (Daft & Lengel, 1986; Lo & Lie, 2008; Ortondo, Van Scotter, Allen, & Palvia, 2007; Reinsch, Turner, & Tinsley, 2008). Face-to-face communication barriers include gender, age, ethnicity, nationality, fear, cultural beliefs, and expectations (Fink-Samnick, 2004; Kai, 2005). Communication via Internet tools increases the possible barriers and complexities, including dropped signals, technology problems, awareness features, and language use (Berge, Muilenburge, & Haneghan, 2002; Johnson, 2004). These communication barriers may exacerbate low levels of conflict (Tuckman, 1965) present at team initiation.
Prior to this study and the major exchange period, VFT faculty interacted using a variety of methods, including face-to-face meetings, video conferencing, email, document sharing, synchronous classroom environments, telephone, fax, and chat applets. In these communication efforts, the VFT had experienced sporadic technology problems, which resulted in delays and some communication confusion. As a result, the team knew from early collaboration efforts that communication was critical and that the existing barriers would have to be addressed.

In order to facilitate project goals, I expected the VFT to negotiate issues, respond to project and local developments, and construct shared artifacts, developing the necessary elements for a CoP (Wenger, 1998b). I anticipated collaboration among the team members in resolving student mobility concerns, in teaching and developing shared courses, and in connecting students’ school projects between the universities and field schools. Regarding individual-level work, I expected each team member to develop a personal idea of group practice. Also, I hoped individuals would reflect on project outcomes, which might include successes or failures, during interviews toward the end of the major exchange period.

To enhance cultural awareness and multicultural appreciation among students and team members, I expected instructors and assistants in the field and multicultural courses to increase their own awareness and understanding of their partners’ language, culture, technology, politics, and other contextual issues. I wondered if the group would move through the process of forming, storming, norming, and performing as predicted by Tuckman (1965). Regarding the different levels of group formation, I wondered if the
team would develop a hybrid team culture, which Earley and Mosakowski (2000) contend facilitates group interaction and team performance.

This study focused on individual perceptions of the team processes, relationships, and outcomes. I questioned whether the participants understood and implemented the overall grant objectives from the original project plan and if members would adopt those outcomes or other results as possible markers of success. I anticipated that choices at individual locations might play a role in the evolution of team processes and that resulting perceptions of success achieved, whether that success was related to stated goals, newer group ideas, or perhaps even more personal, individualized constructs of success. One obvious way of investigating the construct of success was to examine whether each participant thought the original goals were met. As each site had some independence by virtue of its geographical location, individual decisions could vary from site to site based on local problems. These ideas led to the problem statement for this study: *How did a virtual faculty team construct success in an international exchange project?*

**Research Questions**

This study had two primary research questions. The first had two sub-questions and the second had five sub-questions. Together, these questions guided data collection and analysis:

1. How did the VFT collaboratively work together to complete the grant project?
   a. To what degree did they consider themselves a collaborative team?
   b. How did they use technology tools to support collaborative work?
2. What were the components of success for an international VFT?
   
a. How did they define success for the project, both as a group and individually?
   
b. How did these definitions compare to the stated grant objectives?
   
c. How was success for the project measured?
   
d. How did they describe this success?
   
Using these guiding questions, I explored members’ perceptions of team performance and project success to determine if future VFTs might benefit from this group’s experience.

Researcher’s Position

Generally, to better understand their research methods, researchers must decide how they come to know things and therefore how they believe others come to know things (e.g., Denzin & Lincoln, 2005; Merriam, 1998; Patton, 2002). I accept that life is a lived experience, “constructed socially by individuals” (Merriam, 1998, p. 4). According to Patton (2002) this awareness of “reality” and therefore knowing is now central to the selection of methods and particularly qualitative work which attempts to “understand human experience and constructed meanings in context-specific settings” (p. 68-69). This epistemology rests on educational psychology and social learning theory (e.g., Bruner, 1990; Papert & Harel, 1991; Vygotsky, 1980), situating learning within the lived context. These social learning theories provide an “organizing principle” (Bruner, 1990, p. 35) for group behavior and the conceptual foundation for this research.

As a member of the grant writing team, as well as an instructor for two sections of the field experience course (see Appendix C), I had a unique opportunity to study the VFT as an insider. This position provided excellent access to project history,
documentation, communication, and participants. This position also presented the problem of closeness, or being too intimately involved with the project and its team members, along with several possible research limitations which are discussed later. The values that served as a foundation for the grant were also my own – namely, that multicultural education is inherently good and should be extended in schools through sharing and collaboration between and among cultures (Amiel, McClendon, & Orey, 2007).

Further, as a full project participant, I worked daily, teaching and solving problems arising in Muricema or Oakley. My location at Muricema meant unequal access to and knowledge of other sites, events, and participants and greater knowledge of local issues, such as health problems, travel delays, or technology problems. Also, on a practical level as a team member, I developed relationships, both personal and professional, with the other VFT members based on my location, their location, and the levels of our collaborations with each other.

The project was located at four sites (see Table 1.1). One site was in the Southeastern United States and another was in the Western United States. The site in the Southeast, University of Southern State (USS) served as the project origin in a growing city of 120,000 people. The Western site, West State University (WSU), was located in a town of approximately 50,000 people. In Brazil, the two sites were in the north, along the coast and inland to the south. The northern Brazil location, Universidade Federal do Norte (UFN), was located along the coast near the equator in a city with an urban population of over 3 million. The southern location, Universidade Estadual Rosario (UER), was located in a rural area with approximately 400,000 people.
The distances between sites were extreme. For example, between the two U.S. partners, the distance was over two thousand miles. Between the two Brazilian partners, the distance was roughly one thousand nine hundred miles. However, for institutions partnered internationally the distances were even greater. Between Oakley and Muricema, the distance measured just over four thousand three hundred miles. Because direct flights were not possible due to the availability of international airports, air travel required a minimum of thirteen hours to thirty hours based on flight availability. The distance between Ephraim, UT and Campos, Brazil measured over six thousand miles and a flight time of thirteen to thirty hours, depending on layovers.

Figure 1.1. Map of Universities’ Locations in North and South America.

Figure 1.1 illustrates the approximate locations and a visual perspective on distances between the universities involved in the grant project.
The previous geographical information was provided to help the reader visualize the localities involved in this study. During the course of this research, I lived and worked in Muricema at the UFN campus. As a result of location and familiarity, my bias toward the sites UFN and USS may be apparent in my sometimes uneven level of reporting throughout this study. While on location in Muricema, I took private Portuguese language lessons to facilitate communication with field teachers and participants, as well as to increase my understanding of the Brazilian culture. While these courses helped, I never became a fluent Portuguese speaker. I continued to enlist the help of native speakers to varying degrees throughout my fieldwork. Regardless of location, the Internet provided me with access to team members and a connection to our shared work.

Relevance of the Study

In general, as bandwidth increased and faculty became more comfortable with common technology tools such as email, WebCT, Blackboard, and database systems, some of the faculty realized that Internet communication technologies (ICTs) could be used to expand the classroom experience as well. Despite such growth in the use of communication tools in education, I found only a few research studies documenting educational team building across cultures (e.g., Cramton, 2001; Starke-Meyerring & Andrews, 2006; Wilder & Malone, 2005). However, these studies documented student participant descriptions rather than faculty participant concerns. A gap exists in the literature regarding educational team building in international faculty collaboration. This study was conducted, in part, to begin bridging that gap.
In business, virtual teams and global virtual teams is richly supported in research literature (e.g., Godar & Ferris, 2004; Gully, 2000; Ishii, 1999; Knoll & Jarvenpaa, 1995). The for-profit nature of business, however, marks at least one key difference from educational uses of ICTs, although private education may share this objective to some extent. Chapter II present studies and models developed from business teamwork research and student virtual teams, along with a discussion of the possible differences between these two groups and virtual faculty teams. Some issues include differing expectations for longevity and individual participant goals for teamwork.

In considering these aspects of this international project, this study addressed a socially responsible agenda. In seeking to understand collaborative uses of technology for faculty teamwork rather than focusing on students or corporate employees, I hoped to address this gap in the literature. Filling the gap informs practice, and echoes the focus of the grant itself to develop technological and ideological extensions of multicultural education for change and fostering collaboration between international educators (see Appendix B).

Summary

Freire (1995) states, “There is no change without dream, there is no dream without hope” (pp. 90-91). Technology provides a hope for a global future, where education may engage the multifaceted voices of the world. Some, however, have decried the limited impact of educational technologies (e.g., Cuban, 2001). In response, researchers have begun to investigate the power of computer-mediated communication and collaboration tools in furthering education. Many recognize that the world and education continue to evolve and that technological tools are reshaping our world.
According to Jackson (2004), “as academics in democratic societies, we hold a moral and ethical responsibility to remain engaged in these ideological struggles for the present as well as the future benefit of our students, our institutions, and our wider culture(s)” (p. 286). Developing faculty connections and team projects such as the EWP grant is one way to meet this educational responsibility toward globalization.

Friedman (2006) proclaims that “the world is flat” (p. 7), or more closely connected, as evidenced by the ways in which the Internet has globalized business. Business educators are beginning to train management students to lead global virtual teams (e.g., Starke-Meyerring & Andrews, 2006). They have begun to realize that education is not simply training students to use computers for production, but also to collaborate with others in complex scenarios, to create knowledge, and to master rapid decision-making skills for success. Faculty need community and information to build better connections and success in this new flat world.

This chapter has provided the plan for this research study to document an international virtual faculty team as they fostered collaboration and student learning. The VFT work focused on a student exchange and shared and matching courses at the four institutions. The members hoped to pair student projects between the countries and create lasting benefits at the host schools. I hoped to understand the VFT and its management processes and to determine if participants considered the project outcomes a success. The qualitative methods were selected as a way to describe the VFT members’ perceptions richly as they worked through problems and challenges to complete project goals. This research provides one step along the way in describing techniques educators may
consider for bringing the outside world into the classroom. The goal of this study was to better inform faculty efforts to create tomorrow’s more connected, multicultural world.
CHAPTER II
REVIEW OF THE LITERATURE

The increasing use of teams as a context for group work in education and business provides an opportunity to expand research to other newly evolving forms of teamwork, such as virtual faculty teams. In order to gain a strong understanding of virtual teams, I searched online databases for recent and relevant literature. These databases included, but were not limited to, EBSCOhost, the ACM Library Portal, ScienceDirect, Web of Knowledge, and EBSCO Electronic Journal Service. Search terms included “group formation,” “computer-supported collaborative work,” “communities of practice,” “teams,” “teamwork,” “virtual teams,” “global virtual teams,” “virtual teams and persistence,” and “performance and virtual faculty teams.”

The literature presented in this chapter provides a knowledge base for exploring the research questions regarding how a selected virtual faculty team worked collaboratively together and member perspectives on team success. This chapter provides literature on teams, team processes, and team success by exploring groups and group formation models, communities of practice, teams and teamwork, team performance, and team culture relating to communication technologies, trust, conflict, and power. The chapter concludes by discussing the relationship between faculty as virtual teams and academic concerns such as independence, professional renewal, and social networking.
Research on groups and teams is informed by social learning theory, cooperative theory, communities of practice, computer-supported collaborative work (CSCW), distributed groups, and various types of team research. The social learning theories of Vygotsky (1978) and Bandura (1985) focus on humans learning within social contexts. Vygotsky explains how children learn from their surrounding social environments by observing others, particularly parents, before individualizing that knowledge in the process of internalization. Bandura agrees that modeling based on social example allows for observational learning, but his research stresses that individuals then move forward to develop self-efficacy in extending that learning for the individual. Both theorists agree that individuals adopt much from their social groups before moving forward in individualizing and becoming more independent in their learning.

Social learning theory laid the groundwork for other collaborative/cooperative learning theorists, such as Slavin (1996) and Johnson and Johnson (1998), whose work addresses educational motivation and group learning dynamics. Cooperative learning and work assume a division of a larger learning problem or task that is delegated among participants, each contributing to the whole but at least partially working independently (Johnson & Johnson, 1998; Slavin, 1996). The result of cooperative learning and work is theoretically greater than that which can be achieved by a single person. In collaborative learning or work, members work and learn together, mutually agreeing upon coordinated roles to jointly solve a problem (Johnson, Johnson, & Smith, 1991). In studying students with special needs and disabilities, Slavin found that cooperative learning improved their social acceptance as they contributed to solutions to group problems. Johnson and
Johnson found that cooperative learning techniques increased student academic motivation and improved cultural awareness among culturally diverse student teams. Group work and teamwork represent examples of cooperative/collaborative work, and virtual teams extend these theories to teamwork performed via online communication technologies.

Group Formation

Informed by social and cooperative/collaborative learning theories, group formation behavior research is important in aiding our understanding of the foundations of the virtual team phenomenon. Theoretical models aid our understanding of group formation dynamics potentially increasing group performance and productivity. Models of group formation include Tuckman’s model (1965), expanded phases for Tuckman’s model (McGrew, Bilotta, and Deeney, 1999), and Graham’s (2003) cyclical process of norm development model. In addition, a broader theory of group formation is that of Communities of Practice (CoP) (Lave & Wenger, 1991), which examines elements of belonging to a field or community. These various models of examining group dynamics helped inform this study, as faculty represent both a community of professionals and a task-related team. The following section will describe these models in more detail.

Models of Group Formation

A well-known concept in group formation and performance literature is Tuckman’s (1964, 1965) model. The purpose of this model is to understand group performance as it related to “dependence, conflict, cohesion, and functional roles” (1965, p. 384). Tuckman’s research examined participants in a number of group scenarios, including Naval Academy students in collaborative stock market simulation assignments.
and therapy groups where members hoped to learn to deal with personal problems more effectively (1964, 1965). Each of his studies conformed to his four-step model of forming, storming, norming, and performing.

According to Tuckman’s (1965) model, forming represents the coming together phase when group members have not yet determined their group roles. Storming describes the uncomfortable period when members compete for leadership and power roles within the group. The norming phase establishes procedures or mechanisms as group identity develops. The last phase, performing, represents a stable period of group dynamics in which work toward goals occurs. The storming phase can occur more than once, such as when changes or problems arise, resulting in performance obstacles and possible realignment in group leadership. Tuckman notes that extroverts tend to be outspoken and more inclined toward leadership positions within the group. Using Tuckman’s model in student teams, Peslak (2006) found that extravert\textsuperscript{2}-led teams experienced higher scores and increased success. Both Tuckman and Peslak found that group behaviors fit well with the Tuckman model, and specifically that more homogenous groups moved more rapidly to performance levels than did groups with a greater mix of diversity.

Some researchers have questioned the linear nature of Tuckman’s model and have proposed various modifications. McGrew et al. (1999) extended Tuckman’s model in their longitudinal study of computer software developer teams, adding phases of de-storming, or “heightened interpersonal emotions,” and de-forming, or “struggles for

\textsuperscript{2} Peslak (2006) used the personality type “extravert” (an alternative term analogous to extrovert), a term used by the Myers-Briggs Type Indicator Instrument®, to denote an individual who is outward looking and sociable. The Myers-Briggs Type Indicator® is a registered trademark of Consulting Psychologists Press, Inc.
control,” as new stages. McGrew et al. argued that groups have sometimes failed to conform to the Tuckman model because these newly named “latent dimensions” (p. 232) needed to be identified as part of the group dynamic.

Graham (2003) developed another model called the cyclical process of norm development, wherein teams negotiate acceptable behaviors before proceeding to higher performance levels. His participants moved from generalized norms, such as “communicate frequently” and “pull your weight,” to more operationalized norms, such as “check and respond to email daily” and “take initiative, don’t wait to be told what to do” (p. 330). Graham described norming as providing expected behaviors and operationalization as providing acceptable levels of performance. According to Graham, negotiation of these specifics may result in low levels of conflict until consensus is reached, and operationalization ultimately increases productivity.

Other cyclical models include Atherton (2003) and Chang, Duck, and Bordia (2006), both of which note that Tuckman’s model can be conceptualized in a cyclical rather than a linear pattern if phases are construed as repetitive cycles. Both Atherton and Chang et al. continue to accept a group entry point and exit in the group process, despite using the model as an iterative cycle.

Tuckman and Jensen (1977) extended the original Tuckman model to include a cessation phase known as “adjourning.” This phase demonstrated their belief that teams perform for a limited length of time and ultimately end functionality. McGrew et al. (1999) postulated that the value of group formation research into development cycles is to inform management in fostering group performance. The group formation cycles
suggest various levels of group performance, which allows “management to tailor its intervention strategies to the team” (p. 232), thereby increasing group productivity.

Each of the group formation models discussed in this section was devised to help managers, therapists, or group leaders understand group development dynamics. These performance models recognize that various negotiation phases must be allowed before higher levels of productivity can be achieved. All the group formation models provide a beginning (group formation) point and an end (dissolution) point, clearly illustrating the limited lifespan of groups.

Communities of Practice

Building on social learning theory, Lave and Wenger’s (1991) theory of situated learning considers the social context of learning within a more broadly defined community rather than small task groups with narrowly defined functionality. Lave and Wenger developed the concept of legitimate peripheral participation, allowing for varying levels of participant engagement. Because the social world experiences constant change, Lave and Wenger defined legitimate peripheral participation as responsive to such change in respect to “learning trajectories, developing identities, and forms of membership” (p. 36). This concept contributed to the development of Wenger’s (1998a) theory of the community of practice (CoP). Wenger, McDermott, and Snyder (2002) provide an updated definition of CoP as a group “who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 42). The elements of a CoP include (a) engagement in joint enterprise, (b) binding of members together as a social entity through mutual engagement, and (c) production of a shared repertoire of communal resources, including
routines, vocabulary, and artifacts (Wenger, 1998a). These communities may be any
group composed of people who create knowledge together, and as a result, might
consider themselves a knowledge network. In this social construction of identity, the
individual takes part in an “ongoing social world” (Lave & Wenger, 1991, p. 50). These
developments in social learning theory established the relationship between general
theories of social learning, such as Vygotsky and Bandura, to a more specific
understanding of the “engaged, and dilemma-driven nature of group participant learning”
(Lave & Wenger, 1991, p. 33).

The development of enhanced communication technologies and the Internet
allowed the proliferation of online groups, leading to more social connections and
blurring the lines between groups, teams, and communities (Boland & Tenkasi, 1995;
Tyre & Von Hippel, 1997). Rheingold (2000), coining the term virtual communities,
states that “virtual communities are social aggregations that emerge from the Net when
enough people carry on those public discussions long enough, with sufficient human
feeling, to form webs of personal relationships in cyberspace” (p. 9). Rheingold also
notes that richer forms of communication would better sustain these virtual relationships.
For some, virtual life and its web of communication become as real as physical life
(Markham, 1998). Thus technology, with its information and capacities, creates a sort of
reality in everyday work and educational worlds, increasing information access,
facilitating relationship building, and affecting decision-making.

Raven (2003) argues that many teams, groups and communities exist along a
continuum. According to Raven, teams have a leadership hierarchy and work together to
produce a deliverable, while communities emerge from groups, coalescing over time with
fluctuating membership, changing leadership, and varying levels of participation.
Comparing a community of practice with a team, Raven found that although there were differences between the two, the focus of the community toward shared, emerging, long-term goals increased its similarity with teams over time. Indeed, Raven concluded that many groups are essentially hybrid forms falling “in between the extremes” (p. 306) of teams and communities of practice. All groups, despite their location on the spectrum, benefit from supportive knowledge sharing and collaborative communication systems. Wenger (1998b) notes that the business world excels in recognizing the critical edge that knowledge sharing provides, while educators have not successfully mastered communication among themselves to exploit and connect existing knowledge bases.

As a recognized strength of communities of practice, knowledge maintenance and sharing is valued. Capitalizing on this strength, businesses often use communities of practice to increase documentation and connect knowledge between various departments, teams, and individuals (Verburg & Andriessen, 2006). Scarso and Bolisani (2008) note that communities of practice may be used as a strategy for handling “knowledge islands,” (p. 386) or knowledge silos (e.g., Alberg, 2007; Connell & Voola, 2007) that may occur in teams and other isolated groups within an organization. According to Kimble, Li, & Barlow (2000), CoP theory may be used to overcome the barriers of virtual teams. Their research suggests teams must develop a greater sense of community, inherently learning to identify, care, and communicate information in more natural less structured ways to perform successfully. Thus it seems that long-term communities may be used as a concept for bridging more short-range groups, such as special purpose teams in corporate
Applications, building a rich repository of information to support periodic team endeavors.

Teams, Types, and Dynamics

There are many similarities between teams and communities of practice, including mutual engagement, joint enterprise, and shared routines or language. According to Raven (2003), the primary difference between the two lies in the voluntary nature of communities of practice and the mandated outcomes of teams. However, the evolving use of communities of practice in business (e.g., Scarso & Bolinsani, 2008) and the proliferation of teams in various contexts (e.g., Aubert & Kelsey, 2003; Hardin, Fuller, & Davison, 2007; Starke-Meyerring & Andrews, 2006) require some reflection on the narrow definitions of both groups. A part of this reflection focuses on the various types of teams represented in the literature. In addition, growth in team and teamwork contexts and constituencies stems in part from the proliferation in communication technologies and globalization, thus demanding closer scrutiny. The following sections examine teams, distributed teams, virtual teams, and global virtual teams. Afterwards, I provide a discussion of team dynamics, including communication and technology use, trust, conflict, power and performance issues.

Teams

Researchers define “teams” in a variety of ways. For example, Cohen and Bailey (1997) define team as “a collection of individuals” sharing responsibility for interdependent tasks while pursuing a joint goal, “seen by others as an intact social entity embedded in one or more larger social systems” and “across organizational boundaries” (p. 241). In particular, the authors note a separation between groups and teams, with
groups being less structured and often without an expressed output goal. Raven (2003) contends that teams are “explicitly defined and based on business strategy” (p. 293), with assigned membership, clearly defined leadership, and independent roles, but with task interdependence. Other researchers note that teams use shared tools, share common values, generate collaborative products, and have a limited nature (Salas, Dickinson, Converse, & Tannenbaum, 1992). Team and teamwork literature provide a traditional business concept assuming that teams are created for specific purposes, composed of a group of complementarily skilled persons; are charged with a specific output; develop shared methods to achieve performance and output; and ultimately, adjourn their connection when results have been achieved or abandoned (Aubert & Kelsey, 2003; Jarvenpaa, Knoll, & Leidner, 1998; Lee-Kelley, 2006; McLean, 2007), reinforcing the idea of a limited team lifespan.

**Distributed Teams**

As communication modes and technology develop, the use of teams continues to evolve, becoming more diverse and developing across greater distances. Distributed or dispersed teams refer to individuals who are not located at the same physical location, such as in a single building, but who are working together toward a shared goal. In large organizations, teams represent persons from diverse sub-groups from within the larger corporate structure, each of whom brings special knowledge or experience to the collaborative project. The term “distributed team” suggests the construction of teams from different locations and across various departments of an organization (Saunders & Ahuja, 2006). Major university committees are examples of such dispersed teams, particularly when multiple campuses are part of a decision making or project group.
These teams may meet face-to-face periodically and often communicate through email, letters, or even informal conversations between official meetings.

Distributed teams increasingly developed as businesses expanded regionally and globally. Business teams are relied upon because humans are naturally adaptive. Burke, Pierce, and Salas (2006) explain that teams adapt well because they take advantage of group scalability, or a shared “reservoir of social capital, capacities, competencies, experiences, and networks” (p. 117) when confronting change. By using distributed teams, business managers take advantage of their best employees regardless of location—an illustration of “dynamic reallocation of resources” (Burke and Pierce, 2006, p. 118). Adaptability is a critical team asset because teams, especially distributed teams, often operate in ill-defined environments and are charged with complex tasks. The ability of teams to collaboratively navigate change allows global businesses to remain dynamic, weather instability, manage risk, and enhance reliability (Baker, Day, and Salas, 2006).

Yet the continuing developmental problem for geographically distributed teams remains communication and knowledge sharing. Communication and knowledge sharing are particularly complex issues in international, multi-lingual settings and when asynchronous communication mediums are used among teams. According to Cramton (2001), parties must develop “mutual knowledge [which] consists not only of the information itself but also the awareness that the other [person] knows it” (p. 347). Some researchers contend that team membership is psychological experience (Earley & Mosakowski, 2000; Turner, 1985) as members move towards a feeling of belonging and an increasing sense of trust.
As a basis for trust, transnational and other distributed teams must construct shared meaning systems and thus “hybrid team cultures over time” (Earley & Mosakowski, 2000, p. 26). Team effectiveness is linked to time which improves communication. Among virtually paired classrooms and teaching teams, Starke-Meyerring and Andrews (2006) found that student distributed teams created a shared learning culture when faculty first developed “a shared teaching culture” (p. 45). Attention to structured, purposeful team interaction, technology use and facilitation for communication problems, as well as attention to local contexts and limitations are recommended considerations for team instructors planning paired classrooms (Starke-Meyerring & Andrews, 2006). Time for planning, interaction via communication avenues, shared knowledge and culture building provided the key to success among such distributed educational teams.

The evolution of increasingly rich forms of communication allows connections in real time between distributed team members. Therefore, teams that may have communicated and met infrequently in the past can now communicate regularly and meet easily using real time technology. Examples of richer, synchronous communication forms include chat applets with sound and webcams, teleconferencing, and video conferencing, among others.

As teams must develop a shared culture based on shared language and understanding, team lifespan demands consideration. Saunders and Ahuja (2006) contend that team lifespan establishes two separate categories of teams: temporary distributed teams (TDT) and ongoing distributed teams (ODT). Temporary distributed teams represent the traditional view of team use in both education and business, while ongoing
distributed teams possess an “anticipation of future interaction” (Saunders & Ahuja, 2006). According to Kelly and Loving (2004), the removal of time constraints allows greater focus on building interpersonal interaction. According to Saunders and Ahuja, increased time for developing member roles and group norms allows greater communication, trust building, resolution of conflict for improved productivity, efficiency and effectiveness, greater member satisfaction, and increased group cohesiveness. The investment of time in planning and considering methods of communication, goals, local contexts or shared culture provides greater opportunity for team success for distributed teams. Innovations in communication technologies toward richer, more synchronous formats allowed the transition of distributed teams to virtual teams.

Virtual Teams

Virtual teams represent an extension of the traditional collaborative distributed team by incorporating greater use of modern technologies such as email, chat, video conferencing, and online meeting applications as an integral part of group participation and interaction. Godar and Ferris (2004) describe a virtual team as geographically dispersed project members who meet “partially or exclusively in techno-space” (p. vii). Javenpaa and Leidner (1998) define a virtual team as “an evolutionary form of a network organization enabled by advances in information and communication technology” (p. 791). Of primary importance in Javenpaa and Leidner’s description is the permeability of teams and projects across an organizational network, time, space, and culture. They also note two additional components of virtual teams: team adaptability to new knowledge or circumstances and team dissolution at project end. Chase (1999) and Lipnack and Stamps
(1997) concur that virtual teams are created to deal with special issues on an as-needed basis and are dissolved when deliverables are complete. According to Powell et al. (2004), the term length of virtual teams does not constitute “a defining characteristic…but rather a byproduct of the specialized function they often serve” (p. 7). Thus in virtual team literature, researchers continue to examine team lifespan in varying aspects of team composition, purpose, and deliverables.

Research on virtual teams addresses myriad concerns and areas of interest. These include inputs such as design, culture, technical interface computing, and training; socio-emotional processes such as relationship building, group cohesion, and trust; task processes such as communication, coordination, and task-to-technology interface fit; and outputs, including performance and satisfaction as measurements of success (Powell, Piccoli, & Ives, 2004).

On a design level, research confirms that attention to team needs supports productive collaboration. For example, team members prefer personal control over the release or publication of information to all team members rather than having a constantly shared set of information. To that end, individual team members prefer a “subjective view,” allowing individual customization of web views, personal information displayed and control of information released to the larger group (Benford, Greenhalgh, Rodden, & Pycock, 2001). For example, team members may communicate and share documents via a web platform, but confusion may be reduced by withholding incomplete documents until the writer considers them ready for release to the rest of the team. Kimble et al.’s (2000) case study data confirmed that workers felt uncomfortable sharing documents
prematurely – a concern the researchers attributed to a lack of trust and social bonding within the electronic nature of the virtual team dynamics.

On a process level, communication and relationship building are necessary for virtual teams. According to Handy (1995), the more virtual an organization is, “the more its people need to meet in person” (p. 46). In particular Handy emphasizes the need for sharing social touch and decoding facial expressions during greetings and other social conversation. Rocco (1998) agrees that electronic contexts may reduce relationship building, noting that face-to-face contact resolves developing conflicts which may arise from electronic communication. Jarvenpaa and Leidner (1998) encourage methods to develop trust rapidly among virtual teams in order to increase productivity levels. Yet, as virtual teams research extends, later researchers suggest that users are developing greater online communication acumen and “multicommunicating,” or the use of overlapping synchronous communications as a part of normal workflow (Reinsch, Turner, & Tinsley, 2008, p. 391). These researchers suggest team members may enjoy and benefit from connection and communication in multiple ways; for example, text chat may aid language comprehension and translation in international video conference scenarios.

Beyond sheer communication concerns, additional topics for virtual team research include trust, performance, and goal setting in moving toward productivity and success. Research suggests a direct relationship between trust and performance (Aubert & Kelsey, 2003; Hoegl & Parboteeh, 2008). As a consistent measure of success, performance marks a link to goal setting and outcome achievement. Team goal-setting allows members to contribute to jointly agreed-upon deliverables (Hoegl & Parboteeh, 2008).
These and other process topics are covered in more detail in the section on team dynamics.

*Global Virtual Teams*

Global virtual teams (GVT) are internationally distributed work groups of differing ethnic origins (Vogel, Genuchten, Lou, Verveen, Eekout, & Adams, 2001). Such groups typically collaborate via technology, with little or no face-to-face contact due to the distance between team members. Group members negotiate time and meaning, as well as develop structures, tools, and roles. Research attempts to understand differing paradigms for issues such as decision making, values, gender roles, and job expectations (Crider & Ganesh, 2004; Gluesing, Alcordo, Baba, Britt, Wagner, McKether et al., 2003; Vogel et al., 2001) at play in GVTs beyond distance and time.

Global virtual teams must not only deal with international distance, but also with cultural differences as an added complexity. The international aspect to GVTs brings “multiple perspectives to bear on a problem” (Hardin, Fuller, & Davison, 2007, p. 131). An advantage, these multiple perspectives provide insider knowledge from various project locations that are valuable for reaching group goals (McLean, 2007). However, as a drawback, distance often means delays (Gluesing et al., 2003, p. 353) and added complexity due to language and cultural differences (Shachaf, 2008). These communications delays may result in dropped communication or a loss of context as time passes.

In a three-dimensional model of team relationships and contexts, Javenpaa and Leidner (1998) provide a comparative definition of GVTs (see Figure 2.1) by juxtaposing context, interaction modalities, and group longevity.
In this complex model, Javenpaa and Leidner (1998) anticipate a limited life for business-related GVTs as with previously discussed group types. Other researchers agree that GVTs are short-lived collaborative groups that remain in contact until project completion (Andriessen & Verberg, 2004; Massey, Montoya-Weiss, & Hung, 2003). According to Saunders and Ahuja (2006), virtual team literature is maturing, though not yet mature, and holds the potential for further and more accurate description in documenting behaviors as different forms of virtual teams proliferate. Indeed, some writers argue that too often team literature is used inappropriately across contexts (Cheney, Christensen, Zorn, & Ganesh, 2003; Crider & Ganesh, 2004). Thus, different types of teams may have differing variables, problems, longevity and desired consequences.

This research study seeks to extend the narrow corporate and student education nature of these definitions to consider the needs and concerns in virtual faculty teams,
where expectations may differ from short-term corporate or student global teams (e.g., Godar & Ferris, 2004; Gully, 2000; Ishii, 1999; Knoll & Jarvenpaa, 1995; Massey, Montoya-Weiss, & Hung, 2003). In developing new teams, group leaders must consider the development of shared culture and knowledge over time as well as group expectations of team longevity.

Team Dynamics

Teamwork, according to Salas, Dickinson, Converse, and Tannenbaum (1992), denotes the collective efforts of two or more individuals working toward a common goal. In a business setting, teams allow complex tasks to be divided into many roles, collaboratively meshed for outcomes and coordinated by leaders for quality and timeliness (Salas et al., 1992). Teamwork research suggests that setting clear goals and allowing teams to determine their own methods of achievement enables the highest level of performance (Beyerlein, 2007; LePine, 2005; Nilsson, 2000). Gibson and Cohen (2003) point out that teams create “innovation and synergy” (p. 407), especially when confronted with novel tasks. Although conflict and power concerns may arise, teamwork is considered to be superior for complex tasks, as outcomes are better “than the best individual team member could achieve alone” (p. 408). Teams bring a powerful combination of group knowledge and various skills and abilities to play in problem solution and project creation. In international contexts, insider knowledge is a vital advantage.

Generally, West, Tjosvold, and Smith (2003) provide a snapshot of the teamwork field, discussing such issues as cooperation, conflict, identity, innovation, trust, international and cultural concerns, and strategic alliances. Rich literature on virtual
teams is grounded specifically in business and industry (e.g., Aubert & Kelsey, 2008; Jarvenpaa & Leidner, 1998; Lee-Kelley, 2006), although studies among student virtual teams are also numerous (e.g., Earley & Mosakowski, 2008; Hashimoto & Lehu, 2006; Starke-Meyerring, & Andrews, 2006; Wilder & Malone, 2005). These collected works include research on such topics as virtual social loafing, team diversity/multiculturalism, barriers to information sharing, leadership models, performance, and trust (e.g., Ferris & Godar, 2006; Gibson & Cohen, 2003). For the purposes of this study, I selected three areas regarding team dynamics: communication and technology use, trust and conflict, and performance issues, including goal setting and satisfaction as measures of success.

Communication and Technology Use

In tracing the history of information technology growth and its impact on society, Lesgold (2000) notes that despite educators’ uncertainties of the appropriate uses of computer technology in the classroom, historically, teachers have acted as innovators, discovering ever-increasing applications for existing tools. Speculating on future developments, Lesgold notes that some “technologies may push the social or infrastructural envelope of the current school world” (p. 403). Indeed, some authors contend that “the face of education has changed worldwide” and that these new technologies, coupled with electronic pedagogies, allow for the “de-centering of the teacher” and the encouragement of “multiple ways of knowing and interpreting reality” (Amiel et al., 2007, p. 169).

Educational virtual team research explores computer-mediated communication (CMC), culture and multiple perspectives in online teams, problem solving and critical thinking, team learning, and collaboration skills (Connaughton & Daly, 2004; Garner,
Communicating real understanding online, however, has remained a challenge for global virtual teams (Andriessen & Verberg, 2004; Crider & Ganesh, 2004; Johnson, 2004). Cramton (2001) notes “mutual knowledge is the central problem of geographically dispersed collaborations” (p. 346) and contends much of group failure can be attributed to a lack of shared understanding of basic concepts. Thus communication relies on ensuring information is comprehended by the receiver. Virtual teams must find ways to confirm distributed members share the same meaning before moving onward to project goals.

For teamwork among dispersed members, tools are used for creation, interaction, and communication. Online technologies provide a creative toolkit of communication and collaboration options that enable teamwork at a distance (Lo & Lie, 2008). Collaboration can be defined as “any activity in which two or more people work together to create meaning, explore a topic, or improve skills” (Harasim, Hiltz, Teles, & Turoff, 1995, p. 30). Whether co-located or distributed, teams commonly use computers to work toward shared goals and/or deliverables. Sometimes considered mindtools (Jonassen, 1999) or cognitive tools (Jonassen & Reeves, 1996; Lajoie, 2000; Lajoie & Derry, 1993), this study adopts a meaning of tools to include computers and related software as encouraging critical thinking and problem solving. In particular, virtual faculty teams are designed to lead classes, projects, and students; as such, critical thinking and problem solving are required project management skills.

Research establishes a connection between communication and trust (Bradley & Vozikis, 2004; Javenpaa et al., 1998; Lo & Lie, 2008; Saunders & Ahuja, 2006). Therefore, when virtual teams cannot meet face-to-face for interaction and interpersonal
relationship building, computer mediated communication may provide the only link among members. As a result, establishing trust may be a challenge. Jarvenpaa et al. (1998) found that immediate activity and productive results increased trust among newly formed teams, and called for the development of “swift trust” (p. 29) to improve team performance. In researching team selection of communication tools, Lo & Lie (2008) found that communication remains a complex issue. Teams must frequently deal with equivocal concerns – that is, communication regarding topics that may have more than one interpretation. In these cases, team members often selected tools allowing a greater media richness. For example, Web-cam video conferencing may be selected by virtual team members when audio-only conferencing may be confusing. Research results suggest that the higher the degree of experience and trust between team members, the more they tend to use standard workflow communication tools with “lower levels of information richness,” such as text chat and email (Lo & Lie, 2008, p. 151). Thus, communication tool selection produces implications for team performance dynamics, such as trust, conflict and power.

Trust, Conflict, and Power

Virtual teams present a number of new difficulties for team members. For example, in business assigned teams meeting online, members can miss the physical social cues of leadership (Jarvenpaa et al., 1998). In educational contexts, Hill (2002) notes some problems related to developing a sense of community among virtual team members. These problems include a lack of face-to-face interaction, and thus a reduction in facial communication cues; a greater sense of isolation and disconnection, leading to a reduction in student engagement; information overload, which creates “infoglut” (p. 72),
or a feeling of being overwhelmed; and multiple time problems, including time management and information flow rates. Among online learners creating a sense of belonging or community is suggested as a key to continued participation (Moore & Kearsley, 1996).

A sense of community is multidimensional and accounts for levels of engagement, investment, and continued participation. According to McMillan & Chavis's (1986) theory, a sense of community represents five attributes of communal membership: boundaries, emotional safety, a sense of belonging and identification, personal investment, and a common symbol system. To remain engaged in group activities, benefits and power must move bi-directionally between the individual and the larger group. Individuals must feel some control or influence on the group; yet the group must also possess influence over its members to remain as a collective. Members must feel they derive a benefit from group membership. Ultimately, the members must construct a shared set of experiences or “history” binding them together (p. 14). These shared histories create personal identification with the group.

Javenpaa et al. (1998) note that the development of trust “increases confidence and security in the relationship, and promotes open, substantive, and influential information exchange” among new team members. As mentioned earlier in the chapter, Tuckman’s and other group models indicate that conflict is an expected element in the struggle to establish leadership and shared goals (e. g., McGrew et al., 1999; Tuckman, 1965). Because some problems in virtual teams may be effectively countered with trust, many researchers consider it a crucial element in moving members through the early
stages of group formation to arrive at productivity more quickly (Bradley & Vozikis, 2004; Griffith, Mannix, & Neale, 2003; Johnson, 2004; Lo & Lie, 2007; Rocco, 1998).

Often the online nature of virtual teams leads to communication breakdowns, resulting in confusion. This confusion may lead to conflict (Aubert & Kelsey, 2003; Gibson & Manuel, 2003; Handy, 1995; Kankahalli, Tan, & Wei, 2007). For example, when project delays occurred in student teams, Ferris and Godar (2003) found that one set of students blamed their foreign team partners rather than resolving the dispute or taking individual responsibility by filling the information gap for non-co-located team members. The authors also found that instructors often fixed problems rather than teaching students better team behaviors. Faculty should act more as a guide or coach rather “than just a lecturer” (p. 237). Teaching paired online courses is demanding; it requires planning and the development of a shared teaching process and agenda including the development of responsible team behaviors promoting more productive team results and enhancing student satisfaction.

Some argue that conflict is necessary and may lead to greater success in functionality. Graham (2003) contends that conflict provides “the incentive to propose and begin discussing” new solutions to improve group relations (p. 339). Yet others, such as Earley and Mosakowski (2000), recognize that, on occasion, conflict may propel a team forward to greater productivity. Mild conflict forces discussion of critical issues, though serious conflict becomes destructive, leading to a break down in communication and team relationships. According to Griffith, Mannix, and Neale (2003), conflict results as team members become aware of discontinuities in various areas of teamwork. Conflict may occur on several levels, including “relationship, task, or process” (p. 337). The
authors assert that the reduction of group chaos begins with effective leadership in pre-planning and team member selection. Early face-to-face meetings establish a culture of communication and trust among team members working with one another at a distance. High quality video conferencing may act as a substitute when face-to-face meetings are impossible, especially when more social communication is allowed. In fact, when disagreements arise, the authors recommend that problems should “never be dealt with over telephone or by email, but must be handled face-to-face” (p. 348). Table 2.1 provides suggestions for developing relationships, tasks and processes for avoiding conflict.

Table 2.1

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Task &amp; Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasonable times to call (time zone concerns)</td>
<td>Clear direction, goals, and roles</td>
</tr>
<tr>
<td>Reasonable days to call (cultural and customary work schedules)</td>
<td>Rewards and recognition</td>
</tr>
<tr>
<td>Appropriate communication media and contact information (contact and urgent call list)</td>
<td>Capabilities, skills, and training list</td>
</tr>
<tr>
<td>Documentation procedures and communication conventions (file types, key communication phrases, and urgency indicators)</td>
<td>Strong leadership should establish processes and norms</td>
</tr>
<tr>
<td>Meeting schedules and milestones, including face-to-face interaction conventions</td>
<td>Ensure virtual technology skills</td>
</tr>
</tbody>
</table>


Using such suggestions, team leaders may establish working conventions to initiate early communication and effectively diffuse some of the formative struggles in group formation, reducing unsettled periods and hastening productivity.
Some researchers view conflicts as being founded in workplace politics and counter-productive for both individuals and the organization. According to Witt, Hilton, and Hochwarter (2001), these “political behaviors inhibit both social and economic aspects of the employer-employee exchange” (p. 233). Ultimately, on the team level, political behaviors undermine team cohesion, reduce members’ willingness to cooperate, and reduce trust by increasing the sense of risk for independent behavior.

In educational contexts, power and politics exist as well. According to Johnson-Bailey and Cervero (2002), “power…cannot possibly be checked at the classroom door” (p. 22). In general, the university, like any work context, provides a context for power struggles and turf battles among faculty working in various capacities across the organization.

Much of the political context for power centers on positionality, or an individual’s position within a given culture. These characteristics include gender, ethnicity, race, ability or disability, sexual orientation, age, and class (Johnson-Bailey & Cervero, 1997), as inherent qualities of the individual. Cervero and Wilson (2001) argue that “education represents both a struggle for meaning and a struggle for power relations” and that individuals then act out their lives within the context of this “educational…terrain” (p. 3) based on race, class, and gender. As educational practitioners, faculty should be aware of cultural, gender, and racial conflicts potentially affecting teamwork. For example, the importance of gender (Crown, 2007) and ethnicity (Aubert & Kelsey, 2003; Shachaf, 2008) are linked to group conflict. Some researchers suggest the solution for gender-related conflict should be avoidance (De Dreu & Van Vianen, 2001; Randel, 2002). Teams should focus solely on the relevant task. Thus, researchers do not always offer
suggestions for conflict resolution, but rather encourage the supremacy of deliverables over individual satisfaction with group process as one way to deal with power issues.

Another level of establishing power in international teams is the adoption or use of a predominant language for teamwork. Because of language barriers, teams commonly adopt a single language for a majority of teamwork. Frequently this language is English because it may be a shared language among all the team members and because American team members may lack fluency in other languages (Garcia & Canado, 2005). In Garcia and Canado’s study of global teams, non-native English speakers experienced a feeling of reduced power within the group and a greater perceived affinity with other non-native English speakers – particularly with those of a similar language base, such as Spanish and Italian, which are both Latin-based languages. Thus language provides both a context for inclusion and exclusion affecting perceptions of power among team members.

Johnson-Bailey and Cervero (1997, 2002) contend that power relationships exist in all group contexts and must be acknowledged for fairness and to increase productivity. Teams and team leaders must be aware of power within their ranks to negotiate these issues effectively before constructive work can begin.

In summary, virtual teams must develop trust despite the challenges presented by conflict struggles and power currencies among team members. The virtual nature of teams removes the opportunity for face-to-face communication and its richness of verbal cues including leadership indicators and the ability to build trust and personal relationships among members. Survival through conflict resolution may provide an opportunity for bonding and the development of a shared culture, equity and fairness among virtual teams leading to greater performance.
Performance

Performance in team literature relates to a combination of concepts, including goal setting, knowledge management, effectiveness, and satisfaction or success (e.g., Briggs, Reinig, & de Vreede, 2006; Crown, 2007; Forrester, Thoms, & Pinto, 2007; Hardin, Fuller, & Davidson, 2007; Hoegl & Parboteeah, 2003). Goal attainment or performance depends on contributions from each team member. Team members’ abilities combine to provide strength, creativity, synergy, and adaptability. According to Klein and Pierce (2001), adaptability includes such behaviors as flexibility, responsiveness to change, reallocation of resources, and reconfiguration of team leadership when necessary. Team cohesion is apparent when the group collaboratively responds to changing project variables. Thus teams must “adapt on the fly” (LePine, 2005, p. 1153), effectively integrating new information and making decisions, while continuing to move forward toward performance deadlines. LePine found that when members identified strongly with group goals, the team could continue toward successful task completion, even when changing information was further complicated by a disruption of normal communication processes.

This dedication to shared team goals can be fostered in a variety of ways. Knowledge sharing, independent group goal setting, task interdependence, and rewards all combine to encourage teams to work as a unit and complete tasks, despite unplanned changes and periodic problems. In a study of 23 culturally homogeneous virtual teams, Hertel, Konradt, and Orlikowski (2004) measured effectiveness from the perspective of managers’ and individual group members’ performance satisfaction. The authors found the virtual distance between team members could be compensated for by increasing the
number of highly experienced members, allowing a high level of group contribution to
goals, creating highly interdependent tasks among members, and providing rewards for
reaching those goals. Other researchers agree that group buy-in allows members to
increase their sense of control, increasing satisfaction with the team process and a sense
of overall success upon project completion (Briggs et al., 2006; Forester, Thoms, &
Pinto, 2007; Lee-Kelley, 2006).

Harvey, Novicevic, and Garrison (2004) propose that distance and language
reduce the intimacy of team relationships. The authors contend that one measure of
virtual team success is the willingness of individuals to continue with the same team or
the virtual team process. The investment of team members toward building a highly
functioning group may result in a single team culture (e.g., Earley & Mosakowski, 2000;
Starke-Meyerring & Andrews, 2006) facilitating knowledge making and optimizing
individual member contributions. The authors suggest that global institutions focus on
such group longevity issues as they continue to increase global activities (e.g., Saunders
& Ahuja, 2006).

Team performance is a complex topic, and group dedication to agreed-upon goals
provides one step toward more effective teams. Increasing trust ensures better
communication and knowledge sharing among team members, allowing more informed
decision making (Cramton, 2001). International teams should work toward creating their
own unique hybrid culture as a way of cementing inter-group relationships. Creating an
“emergent culture offers a common sense of identity that becomes group-specific,
provides a basis for team-member self-evaluation, and facilitates team interaction and
performance” (Earley & Mosakowski, 2000, p. 26). In a combined study of international
virtual teams, Earley and Mosadowski found that groups developing a hybrid team
culture continued productivity despite changes and external demands. These teams
performed better, and experienced increased communication, cohesiveness, and efficacy.

Recognizing the growing use of virtual teams in business and limited authentic
applications within education, other researchers have explored the potential for created
cultures within learning teams. In connecting students enrolled in two business programs,
one in the United States and one in Canada, Starke-Meyerring and Andrews (2006)
sought to prevent divisions between teams, set clear team outcome goals, and established
equity between the two paired sites. The authors found that students benefited from the
fostering of a team culture. Indeed, the authors, as instructors, also realized the benefit of
a dedication to team relationships and anticipated continuing their collaborative teaching
efforts. Such faculty collaboration allows business students to work in and lead
international virtual teams, providing valuable management experience for today’s global
economy. Increasing research work in higher education contexts illustrate that faculty
collaboration is not only possible with evolving Internet technologies, but desirable for
professional growth and student learning (e.g., Earley & Mosakowski, 2000; Herrington,

Faculty as Teams and Communities

University faculty have traditionally operated as solitary workers, with tenure and
promotion awarded for individual success in research, teaching, and service. Forcey and
Rainforth (1998) call this phenomenon “the individualism of academe” (p. 383). While
universities openly embrace greater diversity within their faculty, staff, and students,
change regarding alternative measures for faculty success remains unrealized. This
steadfast focus on the individual continues to value the uniqueness of the solitary instructor and an “idiosyncratic approach” (Arms, Duerden, Green, Killingsworth, & Taylor, 1998, p. 32) to teaching and work. The lack of more inclusive, creative measures for success discourages collaborative endeavors that have traditionally been “viewed as less valid or less respectable than individual faculty efforts” (Austin & Baldwin, 1991, p. xv). Thus collaborative work among faculty may be viewed as a risky endeavor in the world of academic professionals seeking tenure and promotion. New faculty who are interested in creating new connections and trying new technologies may perceive this as an even greater risk as they approach tenure review.

**Faculty Collaboration**

Research by university faculty endorses collaboration in teamwork among students, teachers, and business professionals (e.g., Amiel, McClendon, & Orey, 2007; Harvey, Novicevic, & Garrison, 2004; Hill, 2002; Starke-Meyerring & Andrews, 2006) but research about faculty collaboration remains a missing part of team literature. Though a number of descriptive reports document faculty collaboration (e.g., Austin & Baldwin, 1991; Forcey & Rainforth, 1998; Herrington, 2004; Sapp, 2004; Schrum & Hong, 2002; Shibley, 2006), these cannot be categorized as research. Some reports document problems in faculty team collaboration (Arms et al., 1998). Still, Linder and Ibrahim (2000) lament that educators often fail to see “the big picture” and refuse to be “team-players” (p. 82). Thus research on faculty collaboration and team teaching in virtual contexts may be a challenging proposition if faculty refuse to act as participants.

Austin and Baldwin (1991) call for greater collaboration among faculty, stating that “no comprehensive survey of collaboration in the academic profession currently
exists” (p. 26). However, they argue that collaboration among faculty exists and should be studied. Austin and Baldwin also recognize systemic reasons that collaboration has remained difficult to achieve in higher education. The conditions discouraging faculty partnerships and collaboration include time consuming preparation, disjointed presentations and poor student reviews, and the removal of typical comfort zones as a stretch beyond personal expertise (Austin & Baldwin, 1991). Thus, a gap remains in the research literature regarding faculty collaboration. Forcey and Rainforth (1998) state that this gap is a result of “the unfortunate habit of academics to study and advocate certain practices for others without adopting them for ourselves” (p. 383). This gap opens the door for partnerships allowing faculty self-reflection, growth about personal practices, and a potential for faculty development.

**Professional Development**

Professional development in higher education provides continuing training, pedagogical tips, and technology workshops for instructors and professors. In the first issue of the *National Teaching and Learning Forum*, Svinicki (1996) noted several principles of faculty learning:

- Faculty are no more alike in their learning styles than their students;
- Motivation to learn derives from the learner’s estimates of the usefulness of the task and the probability of success;
- For faculty, as for students, trust necessarily precedes the risk of learning something new;
- Even highly skilled learners revert to a lower level of learning with new material;
• Learning is a risky business and takes courage and support;
• The power of peer example completes the expectancy/value motivation model. (p. 1-4)

Faculty development assumes instructors want to learn new concepts, tools, and processes for extending their own teaching. However, this places the instructor in the position of the student and removes the comfortable role of the expert.

To assist in this change of position, Svinicki (1996) explains that when peers successfully complete tasks, personal confidence or self-efficacy increases. Thus, successful faculty can contribute to the success of their peers. In addition, she observed that humans rarely take on projects viewed as risky or of limited value, and that university faculty are even more inclined to stay away from high-risk projects. Svinicki states, “With their hectic, overloaded schedules and their high expectations of themselves, they will not have the patience or tolerance to attempt something that doesn’t have a high probability of success” (p. 3). In the high risk climate of tenure and promotion, this propensity toward remaining in a professional comfort zone inhibits faculty innovation in teaching.

Faculty Conflict and Renewal

Not only is the academic community full of risk during the pre-tenure years, faculty often feel in competition with others in their department or field. Austin and Baldwin (1991) agree, stating that “in a competitive enterprise like higher education, individuals will be willing to work together over the long run only if they are adequately recognized and rewarded for their personal contributions” (p. 73). This lack of equal recognition may result in conflict among faculty groups.
Faculty often report conflict in collaborative efforts (Austin & Baldwin, 1991; Forcey and Rainforth, 1998; Svinicki, 1996). Generally, conflict can be defined as “an expressed struggle between at least two interdependent parties who perceive incompatible goals, scarce resources, and interference from others in achieving their goals” (Hocker & Wilmot, 1995, p. 18). As experts in the field of conflict management, Forcey and Rainforth suggest that specific power currencies exist for faculty, including expertise, resource control, interpersonal linkages, and communication skills. Faculty must be willing to risk exposing their lack of knowledge about other areas, must share access to departmental or personal resources, may risk the professional opinions of departmental peers, and must negotiate communication styles within the classroom with teaching collaborators who have their own preferred styles within the teaching environment – whether face-to-face or virtual. Although academic collaboration is challenging, the benefits “outweigh the potential negative consequences” (Austin & Baldwin, 1991, p. 82). Collaboration among faculty in teaching, research, grant writing, or other areas may provide stimulating new ideas on content and process resulting in professional renewal.

Despite the lack of research data, faculty reports enumerate the many benefits of faculty collaboration. Benefits noted include self-examination of pedagogy, discovery of complementary fields of knowledge, social, emotional, and professional support, as well as innovation and renewal (e.g., Austin & Baldwin, 1991; Forcey & Rainforth, 1998; Herrington, 2004; Sapp, 2004; Schrum & Hong, 2002; Shibley, 2006). Support, particularly for women and minorities, is noted as especially critical for long-term professional development and success, as these groups have often been excluded and
isolated from traditional white male academic network opportunities (Austin & Baldwin, 1991).

In the university context, faculty collaboration has much to offer institutionally, professionally, and educationally. Yet to achieve collaboration among such independent entities, members must work to create effective partnerships by developing equally beneficial goals:

Partnerships will develop not from a belief that collaboration is the right thing to do, but from a definitive understanding of the goals to be achieved,…a clear recognition of the benefits to be gained by each institution, and the contribution of equivalent resources by each partner. (Cervero, 2001, p. 28)

Faculty seeking collaboration should consider the balance of power as well as costs and benefits among the partners. In addition, new faculty should be recognized as bringing knowledge of new research and vital energy when compared to the strengths and achievements of more established partners.

Summary

This chapter has provided a review of the literature covering group formation models, communities of practice, group dynamics, various team types and research findings, as well as a view of faculty as teams and communities. Group formation as envisioned by Tuckman (1965), McGrew et al. (1999), and others assists in understanding various team phases such as forming, storming, norming, and performing. These phases, whether linear or more cyclical, provide concepts regarding group growth and change toward greater productivity. Communities of practice (Wenger & Lave, 1991) offer one way of viewing the coalescence of individuals with shared interests.
Manifesting a natural inclination of people to engage in joint enterprise, CoPs bind individuals together as a single social entity and produce shared processes and resources. Literature on teams continues to evolve and mature (Saunders & Ahuja, 2006). Team structures have developed over time from simple co-located teams, to distributed teams, to virtual teams and global virtual teams. Changes in team structure are fueled by a changing global economy. Teams are complex groups, influenced by many variables, including communication and technology use, trust, conflict, and power, resulting in uncertain performance results. Performance is often referred to as goal achievement and group success (Cramton, 2001). These results can be improved with management techniques such as goal setting and the development of hybrid team cultures (Earley & Mosakowski, 2000). Extending research to new contexts, some faculty realize that the growing demand for business virtual teams requires more authentic team experiences for their students (e.g., Starke-Meyerring & Andrews, 2006).

Faculty, too, can benefit from creating partnerships for teaching, research, and other scholarly pursuits. Institutions continue to measure faculty achievement on an individual level for tenure and promotion purposes, yet women and minorities benefit from collaborative ventures. Such collaboration opens up network opportunities in the traditional white male culture of higher education (Austin & Baldwin, 1991; Forcey & Rainforth, 1998). In addition, faculty collaboration across institutions may balance some power issues in higher education, allowing partnerships to be made between individuals and entities equally contributing and benefiting towards a shared enterprise. This collaboration may extend our professional lives and our classrooms to a more
multicultural world using evolving Internet communication technologies and electronic pedagogy to inform our teaching and learning.
CHAPTER III  
METHODOLOGY

The purpose of qualitative research is to capture human experience, incorporating context to bring about added meaning and understanding. Generally, qualitative methods elaborate on the individual or case, facilitating a better understanding of the larger whole of the culture. According to Merriam (1998), qualitative methods require five basic criteria: an emic, or insider, perspective; the researcher as the primary instrument in data collection and analysis; fieldwork (usually); an inductive research strategy; and a richly descriptive product. Qualitative meaning-making and description may be achieved in various ways, such as examining word structures and sequencing or the development of emergent themes from data sources, depending on the questions asked and the methods used.

Qualitative research methods were the most appropriate strategy for answering the research questions for this study. Through these methods, I sought to gain a greater understanding of participants’ perspectives and actions regarding planning, coordination, and implementation of the VFT and their construction of success. Methodologies considered for this study included case study, ethnography, and generic qualitative inquiry, or a combination of these. Qualitative tools consistent with all of these methods included personal interviews, observations, a demographic questionnaire, reflection statement and artifact analysis. Employing such a range of qualitative tools provides “rich, descriptive contextually situated data…within a system or culture” (Silverman,
This type of inquiry allows the construction of a better understanding of participants’ worldviews, which guide individual interactions among the team (Bogdan & Biklin, 1998; Merriam, 1998).

Research Questions

In order to understand team interactions, this study had two primary research questions asking about collaborative work and elements of success, each having a series of sub-questions:

1. How did the VFT collaboratively work together to complete the grant project?
   e. To what degree did they consider themselves a collaborative team?
   f. How did they use technology tools to support collaborative work?

3. What were the components of success for an international VFT?
   a. How did they define success for the project, both as a group and individually?
   b. How did these definitions compare to the stated grant objectives?
   c. How was success for the project measured?
   d. How did they describe this success?

These questions were used to provide insight into members’ perceptions of team performance and team construction of success.

Research Design

The research questions for this study focused on how the VFT interacted regarding group formation, functioning, and performance in managing the exchange process and associated classes. The questions were also designed to address both individual and collective constructions of grant success. I anticipated that VTF members might weigh
events and outcomes differently and come to their understandings of team success in
different ways, thus constructing unique understandings of team achievements.

Initially I considered several possibilities for research methods for this study.
First, I considered the use of case study methods supported by ethnographic tools for data
collection. Case study design covers naturalistic field events and is often used when
studying programs, communities, and work groups with “complex social phenomena”
(Yin, 2003, p. 2). Ethnography also seemed like an appropriate method for exploring and
describing a team study, as it documents a culture and its underlying substructures to gain
a greater understanding of the larger culture. Either ethnography or case study, or a
combination of them, appeared suitable to the praxis of this international VFT project,
with its multiple stakeholders, genders, ages, and differing levels of control. However,
limitations in fieldwork, including unequal access to team members across the group,
precluded the use of both the case study and ethnographic methodologies. Given the
constraints of access and participant compliance, a generic qualitative design best served
the purpose of this study.

This generic qualitative study represents a culturally descriptive work created
with the use of ethnographic tools, as qualitative studies often do. In “basic” or “generic”
qualitative designs, researchers collect data through interviews, observations, and
mix of description and analysis” (p. 11) and allow the establishment of recurring themes
without building theory. Through this study, I sought to capture data through
ethnographic tools, examine that data, and develop an understanding of how
internationally cooperating faculty work together to address functional problems and
curriculum design issues. I did not anticipate developing a model or theory, choosing instead to describe the nature of a virtual faculty team. Specifically I considered if the faculty team might differ from other more temporary virtual teams. According to business and education literature virtual teams are temporary by their very nature. Jarvenpaa and Leidner (1998) define global virtual teams as “boundaryless… [and] temporary” (p. 29). Massey, Montoya-Weiss, and Hung (2003) explain such teams are “time-limited, non-repetitive groups” created for a single purpose (p. 130). Bradley and Vozikis (2004) note that virtual teams are most “frequently” temporary but on occasion may be “semipermanent” with changing group membership (p. 99).

As a part of this naturalistic study, I planned the research design to explore normal team work and daily functions. Basic units of data collection included questionnaires, observations, one interview with each participant, and document analysis. As an active team member, my data collection occurred within the context of video conferences, live chat sessions, and occasional face-to-face group meetings. I conducted interviews during the last two weeks of the major exchange period, during which time I was living and traveling in Brazil. Participant preference and location determined the medium used for each interview – face-to-face, text chat, voice over Internet protocol (VOIP) via chat applet, or VOIP via Skype telephony. In addition, documents examined included emails, syllabi, grant project agreements, and other materials that were generated as a normal part of team work. Voice recordings were transcribed and translated when I believed it would be helpful to the study.

I planned a basic qualitative, iterative analysis of data as materials became available. In this analysis, I began by developing participant and location descriptions.
This was followed by interview analysis, supplemented with team communications such as meeting transcripts, agendas, notes, and to a lesser degree, additional emails and documents as team members created them. These document texts formed the basis of the data that were analyzed for open codes, which I then organized into nodes, or categories. Observational data added an additional level of information to this process. Much later, as I began to identify broader, higher levels of connections among the data, I developed a thematic structure to understand the larger issues underlying team relationships and processes.

While this research does provide some description of the VFT, it does not represent a complete description of the group as a culture, with all of its behaviors and cultural substructures. This is due to my lack of complete access to all group communications and equal access to all team members. However, this study documents and provides an increased understanding of some team members’ behaviors, perceptions, and communication methods based on the available data. These methods and the following data analysis allowed me to work toward constructing a complex picture of the virtual faculty team.

Participants

In this study of an existing faculty team, participants were determined largely by group membership and traditional sampling techniques were not needed. The team included eleven individuals (including this researcher); those eleven represented the members who were actively engaged during the 2005 EWP major exchange period. Despite efforts to recruit female project members, only two of the ten VFT participants
were female. Two new participants were added in August 2005; however, VFT membership remained stable until data collection was complete in December 2005.

In this study, I used project engagement or high activity level as the basis for participant selection. Participants were professors and instructors who served as principal investigators (PIs), lead instructors, teaching assistants for grant-related courses, and the grant evaluator. (For detailed participant descriptions, see Appendix E.) Less active, previous, or peripheral group members were not selected due to their limited engagement with the VFT. The grant evaluator was included in this study because his level of engagement was high and because his ongoing evaluation provided insight on team members and developments in project implementation.

Table 3.1 illustrates the complex relationships among VFT members, their locations, and university affiliations.

Table 3.1

*Participants, Roles, and Institutions*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Role &amp; Position</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Leão Bezerra</td>
<td>PI, tools course teacher, field course advisor</td>
<td>UFN – Universidade Federal do Norte Muricema, BR</td>
</tr>
<tr>
<td>Rui Costa</td>
<td>Grant writer &amp; multicultural course instructor; online instructor all 4 sites</td>
<td><em>UFN – Universidade Federal do Norte Muricema, BR</em> *USS – University of Southern State Oakley, US</td>
</tr>
<tr>
<td>Jo McClendon (no pseudonym)</td>
<td>Researcher, grant writer, field course instructor at UFN &amp; USS</td>
<td><em>UFN – Universidade Federal do Norte Muricema, BR</em> *USS – University of Southern State Oakley, US</td>
</tr>
<tr>
<td>Name</td>
<td>Role</td>
<td>Institution and Location</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dr. Maria Oliveira</td>
<td>Field course instructor</td>
<td>UER – Universidade Estadual Rosario Campos, BR</td>
</tr>
<tr>
<td>Dr. Cadu Oliveira</td>
<td>PI, tools course instructor</td>
<td>UER – Universidade Estadual Rosario Campos, BR</td>
</tr>
<tr>
<td>Dr. Bruce Benton</td>
<td>PI, field course supervisor</td>
<td>USS – University of Southern State Oakley, US</td>
</tr>
<tr>
<td>Dr. Ben Gabriel</td>
<td>PI, tools course instructor, field course supervisor</td>
<td>WSU – West State University Ephraim, US &amp; UER – Universidade Estadual Rosario Campos, BR</td>
</tr>
<tr>
<td>Guy Jones</td>
<td>Field course instructor</td>
<td>WSU – West State University Ephraim, US</td>
</tr>
<tr>
<td>Lucia Moreno</td>
<td>Field course assistant</td>
<td>USS – University of Southern State Oakley, US</td>
</tr>
<tr>
<td>Dr. Carl Williams</td>
<td>Project evaluator</td>
<td>USS – University of Southern State Oakley, US</td>
</tr>
</tbody>
</table>

Because several team members traveled and worked at partner institutions, home institutions are indicated in bold and visiting institutions are shown in italics. The names used represent pseudonyms selected or approved by the participants.

Data Sources and Instruments

Data source documents included the grant application itself, course syllabi and descriptions, Web pages, university agreements, and other documents generated as a natural byproduct of team activities and communication. Instruments included a semi-structured interview protocol (Appendix D), a demographic questionnaire (Appendix G), and a reflection statement (Appendix H). The semi-structure interview protocol provided a basic set of questions for each interview but I began each session by saying “the following questions are simply a starting point for our discussion; you may choose to
answer them or you may wish to discuss other memorable events as we go through the interview.” The demographic questionnaire provided a brief background for each team member including area of expertise, education level, as well as online courses taken and taught. This allowed for some comparison of experience between team members during analysis and provided details for member profiles (see Appendix E for participant descriptions). Finally, I asked the individual team members for a reflection statement a month after the interviews were completed; the statement requested participants to look back and discuss notable memories or events. For ease of the reader, the following list contains all of the data collection techniques employed in this study:

1. Demographic questionnaire
2. Interviews (one per participant) via multiple mediums
3. Reflection statement
4. Email and listserv messages
5. Online artifacts:
   a. WebCT materials
   b. Wikis (cultura; IdeaShop)
   c. EWP Web site
   d. HorizonWimba meetings
   e. Skype, iChat, MSN, Yahoo and other chat conversations
6. Documents:
   a. Annual FIPSE reports
   b. Evaluation reports
7. Periodic observations:
   a. In-person observation of participants
   b. Electronic observation online (synchronous and asynchronous; voice and chat)
   c. In-person and electronic observation of VFT video conferences.

The most commonly used qualitative data collection tools include interviews and observations. Interviews vary widely in nature depending on the type of study proposed and the number of participants. Since qualitative methods often require a great deal of time, some projects require larger samples or longitudinal data. These types of studies benefit from more structured styles of interviews more accurately resembling a
questionnaire. With fewer participants, additional time can be devoted to more unstructured open-ended interviews and probing questions, which allows for additional discovery.

Figure 3.1. Interview Structure Continuum. From: Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco: Jossey-Bass Publishers, p. 73.

Merriam (1998) used the graphic continuum provided in Figure 3.1 to illustrate the scope of question choices available in qualitative interviewing. Given the literature and my pre-existing relationship with team members, I expected the interviews to tend toward the informal and unstructured end of the continuum.

The interview protocol and reflection statement were open-ended in nature, while the demographic questionnaire was more structured but provided space for additional open-ended comments. The semi-structured interview questions inquired about grant and personal goals and VFT collaboration. I reminded participants that answers were personal in nature and that any topic of interest could be discussed. A demographic questionnaire provided baseline or background historical data for all VFT members. Baseline data were used in constructing participant descriptions and in seeking similarities or differences between members’ personal histories.

Research questions were addressed by various data collection methods based on the question, the type of data available, and varying levels of access to individual participants. Observations included face-to-face and online mediums, both synchronously
and asynchronously. Documents referred to any text-based record. Video conference sessions, which varied in length and frequency, represented the most common real-time observation opportunities, while observation of email patterns and topics did not occur in real time.

In addition to data collection for the team, I also kept notes and journals of my own experiences. My observations and thoughts regarding the VFT and its members were recorded and used as a way of processing others’ perspectives, interviews, and stories. In particular, my journals recorded the conditions at the schools and universities, as well as general living conditions in Muricema, Brazil (see Appendix F).

Procedures for Data Collection

Procedures for data collection varied according to the method employed. Given the long distances between sites (see Figure 1.1 for a visual perspective on distances between sites) and the electronic nature of group behavior in this study, much of the data collection was performed online. A significant amount of data resulted from the observation of normal group functioning in various mediums. For video conference meetings, I took observation notes on group work, agenda items, actions, and group behaviors. The continuous flow of grant-related emails into my inbox also provided a great deal of data. Other communications were primarily two-way communication. In these cases, I requested that all VFT faculty copy me in their two-way communications if matters were not overtly private. However, despite this request, faculty did not copy me on emails, nor did they provide me with a synopsis or recap of their discussions.

Emails were sent from various email systems in the U.S. and Brazil to my university (USS) account and were automatically forwarded to my Gmail account. This
allowed related messages to be interconnected using Gmail’s threaded email system.
Threaded messages were then individually downloaded into rich text files. Rich text files were then imported into NVivo for analysis and coding. Other grant documents were also saved as rich text files and uploaded to NVivo. Interview transcripts were generated and translated when necessary.

The semi-structured interview questions solicited information about grant goals and personal goals, as well as participants’ perspectives regarding VFT collaboration. I conducted interviews in a one-to-one setting as selected by the participant. Because of the international nature of the group, access varied among participants. Some participants traveled to Brazil and I took the opportunity to conduct face-to-face interviews. I also traveled to Campos from Muricema and interviewed individuals located there when possible. Still others were interviewed via text chat, voice chat, or Skype based on their personal preferences. One participant requested a printed copy of the questions prior to the meeting and that was provided.

The demographic questionnaires and reflection statements were requested via email and responses received in the same manner. I limited reminders to return instruments to two. Only one participant failed to respond to the demographic questionnaire request. Only two participants responded to the reflection statement instrument.

Analytical Method

I analyzed documents and other artifacts in iterative rounds of open coding and node (or category) creation. The analysis continued through the process of theme development. This iterative process of data analysis adds rigor to what is sometimes
considered the “soft” techniques of qualitative inquiry (Patton, 2002, p. 68). Themes were developed using a modified inductive approach.

To begin my data analysis, I initially developed participant descriptions based on university information, city and national information, and participant demographic questionnaires (see Appendix G). Next, I transcribed voice records into text documents, translating Portuguese to English when necessary. I used a native Portuguese speaker when dealing with translation uncertainties. When there were questions regarding what a participant mean about something, I emailed participants for clarification. I also emailed interview summaries to each participant, requesting that they review the summaries and make any changes or comments within two weeks. My analysis of the data included iterations of open coding, which lead to the clustering of ideas. Over time, as I continued to work with the various data, I rearranged these into a node system (or basic categories) for organization. As a last level of consideration, I developed a theme structure, adding another level of conceptualization for understanding the categories and the connections among them.

Schutz’s Fundamental Interpersonal Relations Orientation (FIRO) system (1958) was one filter used in the analysis of themes and thematic relationships. Schutz’s vocabulary served as a conceptual framework and as a possible lens for positive and negative interpersonal relationships. First developed as a quantitative measure of self-esteem and group functioning, Schutz’s (1966) interpersonal needs categories of Inclusion, Control, and Affection, outlined in Table 3.2, provided a vocabulary and a lens for understanding words and phrases used by participants in describing team membership.
Table 3.2

*Schutz FIRO Vocabulary*

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion</td>
<td>“the association between people”</td>
<td>Positive: associate, interact, mingle, communicate, belong, companion, comrade, attend to, member, togetherness, join, extravert.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative: exclusion, isolate, outsider, outcast, lonely, detached, withdrawn, abandoned, ignored</td>
</tr>
<tr>
<td>Control</td>
<td>“decision-making process between people”</td>
<td>Positive: power, authority, dominance, influence, control, ruler, superior officer, leader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative: rebellion, resistance, follower, anarchy, submissive, henpecked, milquetoast</td>
</tr>
<tr>
<td>Affection</td>
<td>“close personal emotional feelings between two people”</td>
<td>Positive: love, like, emotionally close, positive feelings, personal, friendship, sweetheart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative: hate, dislike, cool, emotionally distant</td>
</tr>
</tbody>
</table>


In addition to researcher-generated codes, some open codes and categories came from *in vivo* codes, or codes adopted from the real words of the participants. Themes represent researcher-generated vocabulary. In addition, data were analyzed using *NVivo* (QSR International, 2004), a qualitative data analysis software package. The use of *NVivo* allowed word and phrase searches, resulting in a consistent level of coding. The software enabled the creation of node systems that represented open codes, or codes which have no connections. In a secondary step, I clustered open codes to form trees, or nodes, for early levels of data organization. Although the traditional terms and *NVivo* terms are different, in general, the software emulates traditional qualitative research methods in a visual format, allowing for digital data analysis. Table 3.3 provides a visual display of the coding structures generated prior to final data analysis.
### Table 3.3

**Final Coding Structures**

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Caring</th>
<th>Valuing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Giving</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taking</td>
<td></td>
</tr>
<tr>
<td>Collaborating</td>
<td>Suggesting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Offering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Requesting: Resources, Meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interceding</td>
<td></td>
</tr>
<tr>
<td>Traveling</td>
<td>International, National, Intercity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Displacement</td>
<td></td>
</tr>
<tr>
<td>Managing</td>
<td>Institutional Issues: Strike, Calendars, Decision Makers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Courses: Multicultural: Assignments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Field: UER, USS-UFN, WSU</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other: Tools, Pedagogy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shared Issues: Projects, Schools</td>
<td></td>
</tr>
<tr>
<td>Communicating</td>
<td>Miscommunicating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fragmentation: Translating/Language, Silos, Censoring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology: Problems, Wiki, HorizonWimba, WebCT, Email</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meetings: Scheduling, Video Conferencing, Team, Teachers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Differing Opinions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONCERNS</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Agendas</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
</tr>
<tr>
<td>Family Issues</td>
<td></td>
</tr>
<tr>
<td>Emotions <em>(Inclusion)</em>: Confusion, Frustration, Disappointment, Anger, Fear</td>
<td></td>
</tr>
<tr>
<td>Failure</td>
<td></td>
</tr>
</tbody>
</table>

| CREATIONS         | Relationships *(Affection)*: | |
|-------------------| Personnel Changes          | |
|                   | Faculty Visits: Connections, Time Shared | |
|                   | Power *(Control)*: Gender, Position, Roles | |
|                   | Goodwill: Empathy, Hosting, Trust/Mistrust | |
|                   | Success: Goals, Sustainability/Moving Forward, Agility | |

At the beginning of the data analysis process, I had no real concept of what would be important or valuable. Frequently codes were dropped into categories and later moved to yet another location. The large data set that resulted required that I focus on materials more closely aligned with the research questions.

**Limitations**

As a naturalistic study, a number of limitations complicated data collection.

Limitations included researcher as full project participant, distance and travel
complications, unequal access to participants and various site locations, health problems, and language barriers.

My position as both researcher and full project participant provided unique insider access and perspective, but reduced my ability to portray events as an outsider—a difficult emic and etic balance. As a full participant, “the investigator is a member of the group being observed” (Merriam, 1998, p. 100). Yet, according to Patton (1990), “the challenge is to combine participation and observation so as to become capable of understanding the program as an insider while describing the program for outsiders” (p. 207). In addition to the struggles of maintaining some balance with emic and etic issues, it is also notable that I served as the only female participant from beginning to end of the EWP project.

This research was also limited by my role and duties as an instructor and grant coordinator, infrastructure problems such as intercity bus travel, interruptions to Internet connectivity, and repeated health problems due to public health conditions within the schools. All of these problems absorbed valuable research time (see Appendix F for a more complete discussion). Figure 3.3 details an estimate of my time distribution while collecting data and working from June 2005 until December 2005. Categories include “travel”, “problem student”, “sickness”, “technology problems”, and “productive time”. Travel included intra-city or local, intercity, and international movement. The problem student category represented a student who failed to transition well into the Brazilian culture. Sickness involved various personal illness related to living abroad and working in local schools including a two week quarantine period. Technology problems included a variety of issues from loss of a personal computer, interruptions in local Internet service
sometimes up to two weeks, and software and hardware problems at the schools and University labs requiring personal attention or reducing productivity. Lastly, productive time represents time remaining. Time illustrated in Figure 3.3 was based on a nine hour work day, and a week of Monday through Saturday. Estimates were based on personal paper and electronic calendars, emails, and researcher logs.

![Fieldwork Time Distribution](image)

**Figure 3.2. Fieldwork Time Distribution.**

Both my limited Portuguese skills and differing levels of English proficiency among participants caused language to act as a limitation to data collection during the study. While I completed two language courses (one in the U.S. and one in Brazil) and continued with a private tutor during data collection, my ability to understand and speak Portuguese remained conversational at best. Although my understanding of Portuguese and participants’ English fluency improved during the course of the project, I continued to need assistance from native Brazilian Portuguese speakers.

Finally, participants in this study were faculty and graduate student workers at four universities. As instructors and project leaders, faculty often work independently. The project context required cooperation and collaboration. At times, personality
differences coupled with external variables, such as university and school calendars, strained team communication and workflow. Research questions probed into the nature of participants’ collaboration and perspectives of success. At times, faculty paused markedly, laughed, or simply ignored questions or entire research tools (such as the demographic questionnaire), illustrating their reluctance to reveal information that they considered compromising or uncomplimentary. Although participants were asked repeatedly and in multiple forms for additional information in some cases, ultimately, I had no choice but to accept the level of compliance each participant allowed. As an example, the reflection statement request (Appendix H) received only two responses. Despite instructions in the instrument asking for a page of text, only two participants responded. One gave a three sentence answer, and the second simply wrote, “STOP! Enough!”

As a student and researcher, I often questioned my position among the professors in the virtual faculty team. A general hesitancy among faculty when asked about collaboration or problems suggested that getting at that sort of data might be difficult among a group of independent peer collaborators. Chapters IV and V provide more discussion of power, position, and gender in relation to specific data points. Johnson-Bailey and Cervero (2002) discuss the inherent power and hierarchical nature between mentors and mentees as one educational relationship. In this project, despite outward appearances of equality, in actuality, doctoral students continued as supplicants to full professors – an unequal balance of power and position. This imbalance represented a complication in the naturalistic setting of the data collection.
In addition, other problems resulted in changes to the research design. For example, the original design called for two interviews – one early and one late – to capture changes in participants’ perspectives. With approval for the pilot study on file, I anticipated a quick approval of changes to extend the study to its latest version. Yet four months passed as my request became mired in personnel turnover in the IRB office at my home university precluding early interviews. This stall prevented the planned early interviews and precluded early/late interview comparisons.

Technology problems also hampered my ability to communicate, gather, and process data during the study. For example, heat and unstable electrical current resulted in the loss of my laptop (and only computer) in August 2005. Even with the help of local VFT members, replacement parts could not be found in Brazil, and import tariffs and unreliable mail precluded shipment from the United States. In September 2005, a massive fire disabled half of Muricema’s Internet servers, crippling communication for over ten days. This occurred only one week after I purchased a desktop PC to replace the disabled laptop.

During the course of this study, gathering data in naturalistic settings did not always lend itself to high-quality results. The Brazilian culture was very social, and its tropical climate drew people out into the open air among tropical breezes for meetings, often over long meals. On a technical level, long tables with clinking silverware, plates, and table-top braziers with simmering meats precluded audio taping or even hearing much of the overall conversation. Other meetings, such as video conferences, were held in a stadium-like classroom with a rattling air conditioner. As a result, much of the meeting data that I gathered remained inaudible. A more detailed discussion of specific
challenges impacting the project more broadly and less personally is provided where appropriate in the following chapters.

Ethical Considerations

Regarding ethics in research, Pimple (2002) developed a heuristic framework for responsible research outlining six domains. These included “scientific integrity, collegiality, protection of human subjects, animal welfare, institutional integrity, and social responsibility” (p. 191; see discussion on social responsibility in Chapter 1). Pimple noted that the basics of responsible conduct in research include “truth, fairness, and wisdom” (2002, p. 192). There should be truth in dealing with human subjects, and research data should always be true, not being falsified or fabricated in any way. Fairness refers to not only gaining the necessary informed consent from participants and the appropriate approval from agencies involved, but also properly citing publications used to build the argument. Wisdom, Pimple (2002) explained, is the socially responsible nature of good research. Responsible research should provide benefit to the field and to the world at large.

In an earlier unpublished research project entitled Virtual Faculty Teams: Faculty Connecting Across the Educational Divide (McClendon, 2004), I interviewed three faculty who had collaborated in joint teaching projects using the Internet, other communication technologies, and online class management systems (CMS) to reach across space and often time to connect with other instructors and learners (McClendon, 2004). Two of the three participants engaged in new VFT projects immediately following that study. Together these studies reveal enhanced technology use, informing the field of emerging trends toward global educational partnerships. Educators benefit from an
increased understanding of the Internet and communication tools facilitating such global partnerships. Lastly, these studies also provide an increased understanding of the problems and complications experienced by virtual faculty teams, allowing greater preparation to compensate for similar obstacles.

Amendments were made to an active Institutional Review Board (IRB) research form to address new instruments being used in this study. Participant universities granted the necessary permissions. Confidentiality was observed as required by the IRB office. Pseudonyms used were selected or approved by the participants. The key list of names matching pseudonyms existed in paper form only and was secured in a locked location with other research materials. Original tape recordings and identifiable records were erased or destroyed within one calendar year of the end of the project. All participants were adults. Each participant signed an informed consent form. This study explored the perceptions and beliefs of faculty in virtual teams, and as such, no undue stress resulted.

Reliability

Steps to increase reliability included: member checks following interviews and observations, as well as an outside peer reader. The peer reader served as a sounding board in equal treatment between participants and locations. Dr. Mary Ann Fitzgerald, committee chair, served as supervisory reader as a third level of review. In addition, computer assisted qualitative data analysis software provided a secure level of data management. This software allowed for high indexing and searchability within and across documents, codes, nodes, and memos (or researcher generated notes). Another advantage to digital analysis of qualitative data is that information does not get lost by the sheer weight of the data and unconnected ideas. The tree system of organization allowed for a
visible display of concepts and relationships at all times. Unconnected threads remained at the top of the layout as a constant reminder of unresolved issues.

Summary

This chapter illustrated that generic qualitative methods provided a fitting basis for investigating VFT management processes and group collaboration dynamics. Although I considered several methodologies, due to study limitations, the generic qualitative design was the best suited to the questions posed and the conditions inherent in the international partnership studied. Limitations included unequal access to participants and periods when data collection was difficult or impossible for various reasons.

This study focused on VFT group formation, functioning, and performance, as well as group members’ constructions and perceptions of grant success. Data collection instruments included observations, interviews, and document analysis, as is consistent with generic qualitative studies (Merriam, 1998). Focusing on a small group of collaborating faculty, this study is not generalizable in a quantitative way, lacking randomly selected participants from a larger population. Team dynamics among collaborating faculty remains a new phenomenon, lacking large scale replication for such quantitative investigation.
CHAPTER IV
RESULTS

The purpose of this study was to determine how an existing virtual faculty team collaborated and constructed success for itself in an international exchange project. Research focused on the perceptions of the VFT members as they worked collaboratively to guide student learning, resolve evolving grant challenges, and manage their own partnerships. The research questions are restated here to assist the reader:

1. How did the VFT collaboratively work together to complete the grant project?
   a. To what degree did they consider themselves a collaborative team?
   b. How did they use technology tools to support collaborative work?

2. What were the components of success for an international VFT?
   a. How did they define success for the project, both as a group and individually?
   b. How did these definitions compare to the stated grant objectives?
   c. How was success for the project measured?
   d. How did they describe this success?

In general, the study sought to determine the nature of team collaborative work, members’ perceptions of group membership, group definitions of success, and if those definitions related to grant goals as originally stated.

Chapter IV examines the communication tools and methods employed by the VFT for group management work. Communication methods and tools provided the
necessary link enabling group collaboration during the implementation of the VFT’s agenda, which supports the literature on teamwork (e.g., Cole & Cole, 2000; Connaughton & Daly, 2004; Porter & Beyerlein, 2000). To assist the reader in tracking the participants, each person’s role at the various institutions, as well as the locations of those individuals when they were away from their home institutions, is provided in Table 4.1. Home institutions are displayed in bold, while visiting institutions, or stays at universities other than the home institution, are denoted by italics.

Table 4.1

Participants and Locations

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Role &amp; Position</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Leão Bezerra</td>
<td>PI, Tools Course Teacher, Field Course Advisor</td>
<td>UFN – Universidade Federal do Norte (Muricema, BR)</td>
</tr>
<tr>
<td>Rui Costa</td>
<td>Grant Writer &amp; Multicultural Course Instructor (online instructor for all 4 sites)</td>
<td>UFN – Universidade Federal do Norte (Muricema, BR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USS – University of Southern State (Oakley, US)</td>
</tr>
<tr>
<td>Jo McClendon (no pseudonym)</td>
<td>Researcher, Grant Writer, Field Course Instructor for UFN &amp; USS</td>
<td>UFN – Universidade Federal do Norte (Muricema, BR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>USS – University of Southern State (Oakley, US)</td>
</tr>
<tr>
<td>4. Dr. Maria Oliveira</td>
<td>Field Course Instructor</td>
<td>UER – Universidade Estadual Rosario (Campos, BR)</td>
</tr>
<tr>
<td>5. Dr. Cadu Oliveira</td>
<td>PI, Tools Course Instructor</td>
<td>UER – Universidade Estadual Rosario (Campos, BR)</td>
</tr>
<tr>
<td>6. Dr. Bruce Benton</td>
<td>PI, Field Course Supervisor</td>
<td>USS – University of Southern State (Oakley, US)</td>
</tr>
<tr>
<td>7. Dr. Ben Gabriel</td>
<td>PI, Tools Course Instructor, Field Course Supervisor</td>
<td>WSU – West State University (Ephraim, US)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UER – Universidade Estadual Rosario (Campos, BR)</td>
</tr>
<tr>
<td>8. Guy Jones</td>
<td>Field Course Instructor</td>
<td>WSU – West State University (Ephraim, US)</td>
</tr>
<tr>
<td>9. Lucia Moreno</td>
<td>Field Course Assistant</td>
<td>USS – University of Southern State (Oakley, US)</td>
</tr>
<tr>
<td>10. Dr. Carl Williams</td>
<td>Project Evaluator</td>
<td>USS – University of Southern State (Oakley, US)</td>
</tr>
</tbody>
</table>
This section examines VFT communication tool use, covering the most commonly preferred tools to the least used among participants. For example, video conferencing was the most preferred communication tool employed, but email was the most frequently used. The tools discussed include video conferencing, chat and VOIP, email, face-to-face conferencing, telephone, and electronic collaboration spaces. In addition, this chapter also considers the issues of miscommunication among the team, as well as individual member reflections. Member reflections on success illustrate how conversation results in conceptual construction of success. (See Appendix E for more detail on individual participants and project locations.)

Communication Tools and Methods

Communication tools and methods employed by the VFT included video conferencing, chat and VOIP, email, face-to-face communication, telephone, and electronic collaboration spaces. Participants used tools in individualized ways, depending on personal communication patterns and the number of other people to be contacted or included in the communication. Group listserv and video conferencing represented the two group communication tools adopted specifically for project communication. Results of analysis of communication tool use, interpersonal issues among team members as faculty, and project success are discussed in the following sections.

As a way of visualizing the various communications tools used among the VFT members, Table 4.2 displays each tool, lists inclusions and specifics, and explains the richness of each medium. Communication and team literature notes media richness as a key element in tool selection and appropriate fit for group communication needs (Daft & Lengel, 1986; Lo & Lie, 2008; Otondo et al., 2007).
Table 4.2

*VFT Communication Tools*

<table>
<thead>
<tr>
<th>Communication Tool</th>
<th>Includes</th>
<th>Richness Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>One to One</td>
<td>Text with attachment capacity</td>
</tr>
<tr>
<td></td>
<td>One to Many</td>
<td>Text with attachment capacity</td>
</tr>
<tr>
<td></td>
<td>Listserv (one to all)</td>
<td>Text with attachment capacity</td>
</tr>
<tr>
<td>Chat applets (may include live camera and VOIP)</td>
<td>MSN Messenger /camera optional (PC)</td>
<td>Text, voice, and camera (separate functions initiated by user)</td>
</tr>
<tr>
<td></td>
<td>Yahoo Messenger /camera optional (PC)</td>
<td>Text, voice, and camera (separate functions initiated by user)</td>
</tr>
<tr>
<td></td>
<td>iChat/iSight (Mac)</td>
<td>Text, voice, and camera (separate functions initiated by user)</td>
</tr>
<tr>
<td>Video conferencing</td>
<td>Polycom 2 point origin</td>
<td>Image and voice (with minor sound delay)</td>
</tr>
<tr>
<td></td>
<td>Polycom 4 point origin</td>
<td>Image and voice (with minor sound delay)</td>
</tr>
<tr>
<td>Telephone</td>
<td>Landline</td>
<td>Voice only</td>
</tr>
<tr>
<td></td>
<td>Cellular</td>
<td>Voice only</td>
</tr>
<tr>
<td>Voice over Internet Protocol Telephony (VOIP)</td>
<td>Skype</td>
<td>Voice and text with image capacity</td>
</tr>
<tr>
<td>Web tools</td>
<td>Web pages</td>
<td>One to many; text and image display</td>
</tr>
<tr>
<td></td>
<td>Wiki pages</td>
<td>Asynchronous group; text and image sharing</td>
</tr>
</tbody>
</table>

The following technology use information includes participant views on tool performance as gathered via personal interviews and other conversations during the major exchange period.

*Video Conferencing*

The VFT adopted video conferencing via a Polycom system immediately after initial funding ensued. This tool provided the benefit of virtually instant visual and audio communication for large numbers of people. In the case of four institutions thousands of
miles apart, video conferencing ideally suited synchronous viewing and discussion of shared issues, providing immediacy and a sense of shared space. (See Figure 1.1 maps institution locations.) At USS, Dr. Carl Williams, project evaluator, donated access to the four-point connection equipment\(^3\) and support services. At USS, the Instructional Technology department owned and used the four-point equipment as needed. At UFN, two-point equipment existed at the science and technology campus across town, but could be scheduled during open hours. Similar two-point equipment at UER was owned by the Department of Education, but the Oliveiras were unable to gain access. (See Table 1.1 for university abbreviations.)

Initially, in the first two years of the grant, video conferencing meetings occurred on an infrequent basis as issues arose. During the third year of the major exchange, the team scheduled regular video conference meetings every two weeks, although other meetings could be called for arising problems. During the major exchange, connectivity problems continued at the Campos site due to technology access. Benton and USS donated a small two-point Polycom system to Cadu Oliveira’s technology lab for meetings. Still, technical problems and connection errors plagued the Campos site. As a compromise, Cadu Oliveira often logged into MSN Messenger, connected with Costa, Jo, or Benton, and listened via headset. Once Cadu had a laptop mini-cam connected to a laptop, we then placed a laptop at the USS conference room in front of the video conferencing camera. This improvisation resulted in a virtual floating head in the midst of our conference table. Although we laughed at our cleverness, the method was a stretch with poor sound quality, requiring many repeated phrases, despite the proximity of

\(^3\) Four-point and two-point refers to the number of other locations the Polycom equipment can connect with at a single time.
speakers. Sound from one media source translated into another medium tends to break down, reducing sound quality significantly. The team used this video-bridging technique only once. During other instances when video conferencing failed or members were unavailable, MSN Messenger remained a consistent backup communication option.

Early face-to-face meetings allowed the members to become acquainted with one another, facilitating discussions and communication in future video conference sessions. Initially, video conferences helped to develop agreements between the universities and to plan upcoming FIPSE meetings and PI site visits. As the major exchange approached, video conferences facilitated discussions on student selection, student elective course selection, arrival dates, visa details, housing, and a host of other issues related to the exchange.

The Polycom video conferencing sessions had limitations, including frequent technical difficulties (e.g., problems with sound), lack of availability, and scheduling problems. Even in year four, the team continued to experience connection problems. Also, many times, visual connections succeeded but sound failed. The following transcript excerpt documents an example of these sound problems. This exchange occurred between Campos and Muricema on September 19, 2005:

Jo: Can you hear us?
Costa: I think their sound is off.
Gabriel: I can’t hear you…. Hellooooooooooo...
Jo: Hello, hello …
Benton: I cannot hear Jo either.
Gabriel: OK, well I can hear you fine, Benton, so apparently it’s not our system.
The Muricema site received visuals but no sound until disconnecting and reconnecting. Campos received no connection at all, although using a chat connection we knew members were working to connect for the entire hour of the conference meeting.

In addition to the problems mentioned above, one site is required to originate the conference call to all the other sites. Only the U.S. institutions had the proper software for completing a four-point call, meaning that the Brazilian institutions could never serve as origination points. The rooms housing the equipment sometimes belonged to other university departments, requiring scheduling and sometimes working around other events or the campus’ open hours. Given the synchronous nature of video conferencing, all four sites agreed to a single time, which proved challenging for busy academics. Also, in planning the regular weekly meetings during the major exchange, the VFT failed to find a time allowing Lucia Moreno, the USS field course assistant, to attend.

As a tangential issue to video conferencing, intercity travel complicated matters in many ways. Specifically, it affected attendance at video conferences for Costa and me. Traveling to the UFN science campus required two buses for Costa and three for me. As an affordable form of public transportation, buses were used at all four grant sites, especially by the exchange students. Campos had only one bus link between the town center and the UER campus. In Muricema, a sprawling city with a population of over three million, the issue was much more complex. Muricema buses had no printed timetables and were subject to varying road and traffic conditions. For example, buses were heavily used by blue-collar workers. As a result, buses were packed with commuting passengers during peak hours, sometimes making it impossible to board. Delays and long bus travel times were common in Muricema.
As most other VFT members remained at their home locations, they used personal cars for transportation. In the case of Ben Gabriel’s stay in Campos, he rented a car for personal use to facilitate travel to and from the campus and local field schools. Carl Williams, as evaluator, visited the Brazilian sites once per year and was escorted by resident VFT members. Inter-city travel affected the frequency individuals could travel to locations such as local schools and video conference sites especially since some inter-city areas in Brazil had limited bus service after business hours or were located in poorer areas. Therefore, access to personal cars represented an advantage in communication.

In general, video conference agendas were planned collaboratively via listserv emails. Despite this preplanning, at times localized events thrust themselves to the top of the group’s to-do list. A Brazilian federal and state university strike began September 5, 2005 as the fall semester commenced. Instantly, the strike became the center of VFT conversation, as it threatened students’ classes, academic credit, and financial aid eligibility. The Campos strike ended approximately one week after beginning. The Muricema strike, however, continued until the first week of December, at the time the USS students returned to the United States. Deft work on the part of Leão Bezerra allowed students to register for necessary courses. In addition, Leão broke the strike by teaching the tools course needed by the USS exchange students.

Despite all the hurdles and frustrations, the Polycom video conferencing system became a lifeline with our scheduled weekly meetings during the major exchange. Not only did video conferencing allow work on regular agenda items, it also allowed the team to engage in a bit of “social loafing” (Gibson & Cohen, 2003, p. 24). Because video conferencing allowed visual communication between partners, members visualized the
project through the exchange of video conferencing rooms, clothing, and technology. For instance, as individuals exchanged places from the U.S. to Brazil, the persons in the video conferences seemed to also exchange seasonal clothing to match the weather. Those in Brazil became sunburned, and the Brazilians in the U.S. began wearing coats and complaining about the cold. Good-natured comments rang out about the beach and crab night in Brazil, and in the U.S., members rejoined that their agendas included football, pizza, and beer. Before the exchange, U.S. partners brought laptops, PDAs, cell phones, and other technology to video conference meetings. After the exchange, the Brazilians began bringing laptops to the meetings while Americans left theirs at host homes and apartments. Laptops were too valuable and too heavy for carrying on Brazilian buses and around the city when on foot.

Despite the brevity, all of the participants valued the hour-long video conferences as a chance to work efficiently. According to Leão, the video conferences were critical. Leaving the campus one day after a video conference, he reflected, “We could never have accomplished half of what we did without the video conferencing. Email is OK, but it just isn’t the same as video conferencing.” Comparing the EWP grant partnership to another virtual team on which he served, Leão complained that after two weeks, only two people in the current partnership responded to an email he had sent to seven people at five institutions. When questioned about the poor response, Leão remarked, “I don’t know why. Maybe the email gets lost in the inbox? Who knows, but anyway…the immediacy of the video conference tends to get better responses from everyone involved.” Video conferencing allowed a quick way for sharing information and making group decisions for the VFT.
Carl Williams, project evaluator, also laughingly noted,

It’s interesting to me—and I’ve heard this now several times—that the video conference may have been what saved this project’s butt. When I think back to when [pausing and rolling his eyes]…Oh, no…we don’t really need that…Leão sat here yesterday, and he said that [tsk] if it wasn’t for that [video conference communication]…we might not have made it.

Each member who regularly attended the video conferences mentioned during interviews or other conversations that these regular synchronous meetings acted as a hinge point for the group. Working in a department of communication and regularly scheduling video conferences, Carl understood the richness of the medium, but remained surprised about the continued need for such rich communication. Team satisfaction with the richer communication media confirms previous studies that found that users identified increased social presence and availability of information as indicative of greater effectiveness in the media (Daft & Lengal, 1986; Otondo et al., 2008). Other studies suggest that rich media allowing face-to-face-like communication may reinforce trust (Rocco, 1998) and that managers should select media based on team members’ perceptions regarding “task-technology fit” (Massey et al., 2001, p. 207). In other words, when available, the richer the medium the better but process planning for the team should include an assessment of communication needs matching technology to team requirements.

Chat & VOIP

Chat applets operate as free software for communication. These applets provide a choice of camera, voice, and text media contexts and are typically easy to operate. Chat applets run seamlessly in the background, allowing users to go about their normal work
patterns until needed. Awareness tools built into chat software allow the user to remain logged in and choose an avatar or photo for display beside his name. Often a symbol allows the user to indicate a status of busy, available, or any other custom status description created by the user. This constantly running software can allow easy access to all logged in parties using the same or networked platform. Simply knowing others’ availability provides a high level of access to other parties, lowers response times, and increases opportunities for communication and collaboration. For example, users typically display an on-screen status message providing location or task or another message of their choice. Figure 4.1 illustrates the online graphical interface of MSN and Yahoo Messenger chat applets.

<table>
<thead>
<tr>
<th>Windows/MSN Chat Applet</th>
<th>Yahoo Chat Applet</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Windows Messenger" /></td>
<td><img src="#" alt="Yahoo Messenger" /></td>
</tr>
</tbody>
</table>

*Figure 4.1. Chat Applets.*
At the time of the major exchange, chat applets required users to subscribe to the same service and logon simultaneously to communicate. In other words, if two people wanted to chat with another person via MSN chat, both parties would need to have an MSN account and both parties would need to be signed on at the same moment in time. Dr. Maria Oliveira and Guy Jones, field course instructors for UER and WSU, shared their personal email information allowing me chat contact in late November and early December 2005 during their interviews, respectively. By adding them to my chat interface, I knew when they were online through awareness functions and I could easily contact them with a quick message. This late addition may be because neither Maria nor Guy regularly used MSN Messenger and Skype as work-related collaboration tools. Guy used iChat with his supervisor, Ben Gabriel; however, iChat remained incompatible with PC computers during the exchange period of 2005. The lack of that direct line of synchronous communication made field course coordination especially difficult.

Apple chat software, called iChat, worked well in different modes—text only, audio only, text with audio, or text and audio with a peripheral camera, called iSight. Within the VFT, only four people used Apple computers: Gabriel (WSU/UER), Jones (WSU), Benton (USS), and Costa (UFN). Both Benton and Costa added Gabriel to their iChat contact information; however, Jones failed to provide his iChat username to anyone but Gabriel. As an overview of participant chat applet use, Table 4.3 identifies participants, their locations, and chat tools used.
Table 4.3

*Chat Applet Use by Participant*

<table>
<thead>
<tr>
<th>VFT Member</th>
<th>Location</th>
<th>Chat tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leão Bezerra</td>
<td>Muricema</td>
<td>MSN Windows chat</td>
</tr>
<tr>
<td>Rui Costa</td>
<td>Muricema</td>
<td>MSN Windows chat, Apple iChat, Yahoo chat</td>
</tr>
<tr>
<td>Jo McClendon</td>
<td>Muricema</td>
<td>MSN Windows, Yahoo chat</td>
</tr>
<tr>
<td>Bruce Benton</td>
<td>Oakley</td>
<td>MSN Windows chat, Apple iChat, Yahoo chat</td>
</tr>
<tr>
<td>Lucia Moreno</td>
<td>Oakley</td>
<td>MSN Windows chat</td>
</tr>
<tr>
<td>Ben Gabriel</td>
<td>Ephraim</td>
<td>iChat</td>
</tr>
<tr>
<td>Guy Jones</td>
<td>Ephraim</td>
<td>iChat</td>
</tr>
<tr>
<td>Cadu Oliveira</td>
<td>Campos</td>
<td>MSN Windows chat</td>
</tr>
<tr>
<td>Maria Oliveira</td>
<td>Campos</td>
<td>MSN Windows chat</td>
</tr>
</tbody>
</table>

As a part of data collection and analysis, Table 4.4 illustrates a slice of a normal chat session between Lucia Moreno (USS) and me (UFN). Our dialogue demonstrates how we used the software in this communication mode. Notes in the left column point out researcher comments. The right column provides the English translation for Portuguese text, as well as explanatory comments. The chat applet places the speaker’s name in bold italics and regular italics indicates actions performed by the software.

Table 4.4

*Sample Chat Conversation*

<table>
<thead>
<tr>
<th>Researcher Comments</th>
<th>Chat Conversation September 22, 2005</th>
<th>English Translation of Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Lucia Moreno says:</em></td>
<td>Oi Jo, tudo bem? You sent me an e-mail requesting a MSN conference. Do you set up a date right now?</td>
<td>Hi, Jo. All’s well?</td>
</tr>
<tr>
<td>Jo informs Lucia that the selected VFT meeting time is inconsistent with her schedule.</td>
<td><em>Jo says:</em> Yes, I bet I left that off the email didn’t I? Sorry - let me get my calendar unfortunately they [the other VFT members] liked the Tuesday time so I said we would have to give you updates</td>
<td></td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oh!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jo says:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am sorry:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I did mention it, but .... did you receive my [project] summary?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would like to talk about it.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jo invites Lucia to use VOIP to talk rather than type the conversation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jo says: you want to turn on headphones?</td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>So, are you saying that the meetings will be on Tuesdays at 2:00 PM?</td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>All right.</td>
</tr>
<tr>
<td>Jo says:</td>
</tr>
<tr>
<td>the next meeting is Oct 11 at 2 pm USS time</td>
</tr>
<tr>
<td>You have invited Lucia Moreno to start a Voice Conversation. Please wait for a response, or cancel (Alt+Q) the pending invitation.</td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>I am teaching at this time. I cannot make the meetings.</td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>Can you hear me?</td>
</tr>
<tr>
<td>Jo says:</td>
</tr>
<tr>
<td>can you speak again?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VOIP fails due to poor sound quality; we return to text messaging.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucia wants Jo to find a book for the student project in Brazil she needs to pair with.</td>
</tr>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>Can you find a young adult novel that has been written by a Brazilian, translated into English and either deals with race/SES directly or has this as a sub-plot within the book? You will need to find this book very soon, by tomorrow if possible.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lucia shifts to Portuguese without warning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucia Moreno says:</td>
</tr>
<tr>
<td>Hoje na aula houve uma discussão sobre os projetos, eu fui informada que iam separar os projetos e os grupos similares...o que eu soube foi que houve uma discussão sobre os projetos e me disseram que eu deveria trabalhar no projeto de Cultural Identity e se o livro que você escolhesse tivesse alguma relação com o meu projeto a gente poderia trabalhar juntas... Bom, eu não entendi muito bom como é...como é que a gente fica, sabe?? Eu me sinto perdida... Pelo que eu entendi eu acho que tenho que contactar a outra professora (Lana) para tentar trabalhar com ela... Eu não sei o que falaram pra e nem sei se a gente pode ou não trabalhar juntas... Só queria que soube o que aconteceu hoje... Me dê alguma notícia sobre o que sabe e o q acha disso, OK?!</td>
</tr>
</tbody>
</table>

Today in class there was a discussion about the projects. I was informed that I had to separate similar projects and groups, that I had to work with the Cultural Identity project, and my book that I found for it had to have some relation so that we could work together. Well, I didn’t understand this well. How can we do this, do you understand? I felt lost. Because I understood that I believed I had made a contract with another teacher (Lana) to try to work with her. I didn’t know that you had said no one could have a project that didn’t work with
This conversation marked an important moment because I informed Lucia that the other VFT members decided to hold our weekly video conference meetings at a time when she could not attend. In addition, this conversation illustrates an attempted connection via Voice over Internet Telephony (VOIP). Although the VOIP appeared to connect properly, we were unable to get the audio to work. Last, this instant chat illustrates the Brazilian VFT members’ tendency to volley between English and Portuguese. The study and knowledge of Portuguese by several U.S. team members contributed to a stronger feel of equanimity among group members, regardless of country of origin, and supported their willingness to overcome communication barriers (e.g., Garcia & Canado, 2005).

**Email**

Team emails, characterized as “useful” (Benton) and “nice…virtually instantaneous” (Gabriel), included requests for meetings, agendas, meeting summaries, further information requests, last minute changes to schedules, and more. In addition to person-to-person emails, the VFT made use of a USS listserv called BRAZIL-L to contact everyone with a single message. Emails collected for this study were of four varieties: BRAZIL-L emails broadcast to all VFT members, emails in which I was included as a direct recipient, emails in which I was included as a copied recipient, or emails forwarded to me at a later date. Typical emails included such exchanges as the following excerpt which originated from a Brazil-L listserv email from me:

> **Subject: Can you do a VC (video conference) on Friday?**
> Jones,
> Leão would like a VC with you (and Gabriel if he would like to attend) on Friday if you are available. We have reserved the VC room for 2-4 pm which would be 10 am to 12 pm your time. If this works for you, the agenda is simply discussing
the possibility of pairing the students at WSU with John [a new exchange student] who will be here in Muricema in the spring. There are a number of things to discuss including timetables. Thanks for your interest and timely response! Jo

Response 1:
Hi Jo and Guy,
I’ve just found out that we have Vestibular [Brazilian college entrance exam] on Campus on Friday, so we won’t be allowed to come. I suggest we do the VC on Thursday (11/8) or Monday (11/12) in the afternoon. Will that be ok?
Leão

Response 2:
Jo:
I’ll let Guy respond based upon his schedule, but I will be out of town on Friday and unable to attend. But, we have another issue that probably should be resolved before we make too many plans. There is a very real possibility that the 3 UER students will not be attending WSU beginning in January. Only one of the three students has even been scheduled for the visa interview. That interview is scheduled in São Paulo for Dec. 15. The other students are looking right now at interviews no earlier than Jan. 20. As I understand, visas are awarded some period of time after the interviews, making travel to the US possible only well after the beginning of the semester. The students have requested an earlier date for their interviews, but have not yet received a response to their petition. It seems to me that we should have a little more assurance that our UER students will indeed be studying here during spring semester before too many decisions are made. Nevertheless, if there are other things to discuss, a videoconference would be welcome. Just a thought…
Ben

Response 3:
Hi Ben
Students get their visas (or not) one day after the interview, so if they can be interviewed by the end of December or beginning of January they should be ok. Have they received the I-20 from WSU already?
Leão

Scheduling, agenda items, and arising problems dominated topics for emails among the VFT, confirming the literature which finds virtual team communication to be “event driven” (Hornett, 2004, p. 197). The example above illustrates that tangential topics, at times, caused spin-off threads, taking discussions into altogether new directions. In his email, Ben showed concern that the anticipated exchange might not occur at all, thus precluding the need for student planning activities for spring 2006.
In addition to one-to-one emails, the listserv broadcasted emails to the entire group as needed for planning purposes. For example, meeting planning consistently generated a flurry of emails. The team planned weekly video conferences for every Tuesday throughout the major exchange, except for holidays or interruptions. An invaluable tool for communicating to all members rapidly, team members posted regularly to the listserv. The following conversation gives a sample listserv message for planning a video conference:

Subject: Tuesday’s Video Conference Agenda
To: AllVFT
From: Jo
Date: 9/15/2005

Ola gente! [Hi folks!]

So our first video conference is Tuesday (3 pm Muricema time). It is for any PIs who wish to attend but will primarily be focused on planning for the field courses and the associated student projects. We will have student meetings later so this is for the teachers as we seek greater alignment in the courses. I am creating an agenda now.

Some general items that are currently on it include:
- field courses at each location: goals, assignments, due dates
  - status of student projects: topics, possible partnerships at other sites, teacher partners
- dates & times for future video conferences
- dates for joint student meetings
- student participation in the Wiki and/or WebCT
  - and lastly, Bruce would like to chat with Tadeu for a few minutes to discuss their upcoming trip to Washington DC for the FIPSE meeting

So I will put together an agenda and send it out for everyone if you want to ship me any items to be added or more detail on any of those listed above. Thank you all and I look forward to seeing you Tuesday at 3 pm (Muricema time)! Jo

As the fall 2005 semester began, email provided a crucial coordination function. As a team member, I received an average of 10 VFT group or individual member emails per day early on in the exchange. Once problem field projects were adopted for leader shadowing on September 19, 2005, emails slowed significantly. The average dropped
fifty percent to five per day on a variety of topics from the group listserv or from individuals. As the semester progressed, communications shifted to pairing projects, budgets, or scheduling video conferences, and away from field course coordination. At times, communication moved in across multiple platforms as the message and its ramifications filtered through the team. For example, during the budget crisis in October of 2005, Benton spotted me online in MSN chat and began a conversation about alarming news at the FIPSE conference in Washington, D.C.:

_Benton says:_
We have major budget problems

_Jo says:_
Ok

_Benton says:_
there is a possibility that we may not get next year's money

_Jo says:_
[expletive] why?

_Benton says:_
that includes $20K we need to pay the students who are in Brazil now - budget cuts

Benton asked me to write an email informing the students of a possible delay in sending their money. In addition, he sent an email message to the other PIs asking for an immediate video conference to discuss a course of action. This particular chat event exemplifies that chat conversations, because of their immediacy, provided an effective way to communicate time-sensitive or urgent messages. The information then became more concretized within the VFT information system with emails and, ultimately, a video conference for broader discussion and possible solutions.

As the field course issues settled and student projects paired off, the frequency of emails from PIs at other sites began to dwindle. By November and December of 2005, Costa, Leão, and I shared more emails as a working group than communications from other VFT members at a rate of 3 to 1. Even Benton, previously a consistent member of
our immediate circle earlier, seemed to drop out of daily communication, devoting his attention to competing concerns at USS. Once again, the frequency of emails surrounding events and problems confirmed team literature regarding its event-driven nature (Hornett, 2004; Lave & Wenger, 1991).

**Face-to-Face**

According to media richness theory, face-to-face communication is the richest communication available (Daft & Lengel, 1986; Otondo et al., 2008). During the grant, streaming video or video conferencing operated as a technology mediated replacement for the team for regular meetings. The little face-to-face time shared by team members represented not only meetings and work time, but down time as well, often called *social loafing* in team literature (e.g., Gibson & Cohen, 2003). Face-to-face interactions allowed the rapid processing of long business agendas, as well as promoting social loafing, which provides an opportunity for bonding and trust building among members.

Brazilian team members, in particular, preferred face-to-face communication, scheduling meetings over meals or drinks. During the semester, it was common for Leão to ask Costa and me to meet him on campus to discuss issues, despite the fact that it took us two bus rides to reach him. This seemed interesting to us, because audio conferencing via chat applets and our collaborative online spaces was available from our apartments. In general, all the VFT members preferred face-to-face communication when possible, which Benton and Gabriel indicated in their interviews.

Once all the parties assembled in one physical location, few limitations existed and brief but focused face-to-face meetings ensued. This rapid communication and resolution of problems confirms the literature which explains that a face-to-face context
rapidly “repairs” problems which may occur in electronic contexts (Rocco, 1998, p. 489).

During interviews, each VFT member easily recalled memorable shared times, but most also recalled the lengthy and arduous flights traveling to the U.S. or Brazil for annual meetings. According to Benton, it was “all about time” together. The grant project changed partners during years one and two, followed by a change in leadership at WSU in year three. Time, especially face-to-face time, was lacking with our WSU partners. During his interview in November 2005, Benton reflected, “I think that this interview is taking place on my visit to Brazil, and we just had two days of meetings with Western State and UER, and I feel like there are some connections being made.” Benton strongly believed that without the face-to-face meetings and resulting personal connections, project partnerships would not have worked:

> For me the most important thing that happened is the face-to-face times that we’ve had together… It’s been useful to maintain those relationships through email and our video conferences and occasional virtual HorizonLive sessions to keep the communication channels open, …but it’s those face-to-face meetings…that we spent together [that were] the best stuff…I mean that was… powerful…

To Ben Gabriel, the face-to-face time was also invaluable. Gabriel argued that the level of available information in face-to-face communication was vast. Other types of mediated communication reduced or restricted the available information, adding the potential for miscommunication. In his interview, Gabriel noted, “You get together with someone in the same place and time - now it’s multidimensional and … you are having a common experience in so many different ways that it’s just much richer….” In particular,
Gabriel preferred face-to-face communication for allowing members to “correct immediately” any misunderstanding. This natural inclination to discuss problems face-to-face provides a quick way to re-establish trust and rapidly collaborate on problem solutions supporting virtual team literature on the need for face-to-face interaction (e.g., Rocco, 1998). For the VFT and other global teams, video conferencing may substitute for face-to-face meetings when travel is impossible or prohibitively expensive and/or time consuming.

On the VFT, each team member seemed to treasure the shared face-to-face times. Although visit preparation required significant planning and time, hosting the visiting team members and students allowed each PI an opportunity to show the best of his institution, city, and region. The consensus among the VFT during their interviews maintained that the limited face-to-face times provided pivotal work and downtimes to keep the VFT working patiently together during the more difficult periods of the project.

*Telephone*

Telephone communication was not a commonly adopted tool for the VFT. Differing time zones and the cost of long distance and international calls were barriers, making telephoning a last resort as a communication tool. Telephone communication included traditional telephones or land lines, cellular phones, and VOIP applets such as Skype.

Immediacy, the traditional benefit of telephoning, was less useful to those members of the team accustomed to using chat. Field course instructors and assistants operated independently enough to not require frequent immediate communication links with supervisors. Use of traditional land lines provided a response avenue to immediate
problems rather than a planning and scheduling context. For example, Costa and I often contacted each other via chat or in person. Our awareness that chat provided a daily opportunity for communication forestalled a possible reliance on telephone use. But problems sometimes arose and computers sometimes malfunctioned. As a result, and since landline telephone costs per minute were cheaper in Brazil, we would occasionally use our home phones to discuss solutions rather than our cell phones. The following telephone log notes illustrate two problems with short resolution windows that resulted in landline telephone conversations:

Excerpt 1: Jo emails a student about project concerns

*Rui and I just spent a good 30 minutes talking on the phone about yours and Dan’s project which we feel is a long way from being ready to implement especially if he is talking about new ideas and you have a LP (lesson plan) due and implementation in a week.*

Excerpt 2: Notes on student travel request

*Rui and I talked on the phone regarding his request, noting that it was nice of him to ask before leaving as the WSU students had simply disappeared for days at a time without asking.*

The fact that time was mentioned belies our attention to the cost of the time; in other words, the conversation rated the cost because immediate action was needed. Notably, both of these telephone conversations resulted only after chat with VOIP failed.

Telephone systems vary greatly between the U.S. and Brazil. In the U.S., landline service contracts include unlimited local calling and varying per-minute long distance fees. In Brazil, a per-minute fee is charged on every call beyond a monthly service fee. Additional higher rates are charged for incoming cellular phone calls to landlines. In fact, the Brazilian telephone system is so different that many students failed to understand the costs associated with its use. In one case, a host family cut off the ability of cell phones to
call their home because the American exchange student did not seem to understand the added expense after multiple explanations.

In the United States, cell phones and associated service contracts provide relatively inexpensive telephone coverage around the country. In Brazil, cell phones remain relatively expensive, and both incoming and outgoing service is on a pre-pay basis. International calls in both the U.S. and Brazil remained prohibitively expensive via cell phone and landlines as well. VFT members purchased cell phones for use in Brazil. High costs severely limited the use of landlines and cell phones by participants in this study, largely because other options existed including chat, VOIP, email, and video conferencing. In addition, the four university partnership assumed representatives from all four should be included in conversations, precluding the immediacy of most telephone communications.

_Electronic Collaboration Spaces_

The multicultural course and the UFN/USS field course took advantage of three electronic spaces: HorizonWimba, an online wiki called _Wiki Cultura_ [Culture Wiki], and WebCT. Initially, both the multicultural course and the field courses were intended to be collaborative efforts with contributions from PIs or other faculty at each institution. All members of the VFT were given logins for all collaborative spaces. As the courses developed, other VFT members contributed little, with the exception of Costa (multicultural course instructor) and me (UFN/USS field course instructor). Leão provided an article in Portuguese for the field course WebCT space, to be translated by a student worker. However, the translation never occurred. Both Costa and I expressed disappointment with the lack of VFT contribution to the electronic classroom spaces.
The online spaces provide many benefits. The asynchronous nature of the wiki and WebCT allowed posting of the syllabi and other details and anytime viewing. In WebCT, the field course used a student collaboration space called IdeaShop, where students posted their ideas for collaborative work and connected to other students and schools for projects. The wiki by its democratic nature allowed all members to make changes and updates. HorizonWimba, a synchronous online classroom environment, allowed many functions of the traditional classroom, such as live discussion, student collaboration, and instructor presentation and writing space. HorizonWimba also allowed the benefits of an asynchronous classroom, such as warehousing classroom artifacts and course documents.

Immediately after starting the semester, I attempted to find a shared synchronous time for all four field course classes to meet using HorizonWimba. After an initial video conference discussion about shared meetings, I sent the following email:

Date: 9/5/05
From: Jo
To: all VFT

Ola gente [Hi folks],

We had discussed our classes meeting online or in a video conference perhaps 4 times during the semester. All the field course instructors agreed that they thought this would be possible despite our different calendars and syllabi.

I have set a video conference with USS for Sept. 20th at 3 pm (Muricema time) and would love it if others could attend (I realize this one may not fit into your calendar).

The dates I had in mind for all of the planning and following students meetings were:

- Planning meeting/Student Meeting (HorizonLive or Video Con)
- September, 20th
- 3 pm (Muricema Time) Sept 22nd or 29th
- October, middle –17th? October 20st or 27th
- November, 3rd week – 14th? November 17th?
- December, first week* - 5th?

*This one depends on the last day of class for everyone December 8th?

I do not think we can go any later than this because our students return to the US
around this date.
If you see any problems with this schedule that I did not foresee (maybe holidays for your location or some other issue I am unaware of), please let me know! Jo

At the following video conference session the WSU team asserted that no other time existed other than the multicultural class period to allow students in Ephraim and Campos to meet synchronously online. Ultimately, the course instructors provided some individualized student meetings upon request and expanded the final multicultural class meeting to allow field course project presentations.

Largely, the online collaboration spaces operated as a reference tool. Using these spaces the syllabi and developing projects remained available online continuously. Jones commented in his interview that he never received a WebCT login. Yet, he did ask the WSU and UER students to post to the wiki. Maria explained she was confused by the differing school calendars, her English language problems, and ongoing complaints from the visiting WSU students. Ultimately, the wiki and IdeaShop provided the strongest link between the various field courses as direct communication links between Jones, Maria, and me operated poorly.

The limitations also included sound problems, especially at 5:00 each evening at each location when sound began to break up badly. These sound problems plagued all the U.S. and Brazil sites. Although we had no evidence, we attributed this problem to early evening Internet traffic congestion. In addition, in Muricema, the computer lab computers stayed in disrepair. The largest disability in the use of collaboration spaces was the lack of buy-in by the other VFT members for use of the shared spaces. In his interview, Costa mentioned his disappointment, saying, “No one did anything, even Benton.” None of the
three platforms available to the team offered English and Portuguese, creating a language barrier for one side or another in their use.

*Miscommunication*

Miscommunication occurred from time to time on various issues and was normally easily rectified. As an example, Costa and I planned to meet one day; he text messaged me, “I’ll be there in 30 min.” After one hour, I gave him a call and unfortunately discovering we’d both assumed “there” was a different Muricema campus. Though frustrating, such miscommunication resulted rather small problems. However, on occasion, a serious disconnect resulted in significant problems for both parties involved and confusion for the entire team.

One extreme case of miscommunication involved language, time zones, telephone, VOIP, and email. It began with email communication and later switched to telephone conversations when the timeline ran short. Late in November 2005, in arranging for the arrival of Carl Williams, the grant evaluator, to Campos, a great deal of communication led to confusion. Travel inside Brazil, particularly to rural locations, was sometimes complicated and lack of Portuguese language skills further exacerbated problems. After a series of emails from Costa and Gabriel trying to explain the possibilities to Williams, finally Gabriel gave Williams a call via Skype at the last moment to solidify plans. Williams explained his experience in an interview:

And even when he (Gabriel) called me on the phone [Skype VOIP to cell phone] in Miami and said we’re shooting for 12 or 12:30. Then I’m sitting there with no… he said he was going to call my office in Georgia, in the United States, or Costa, to say if there’d been any problems. So naturally, with a driver upset that he was having to wait longer, and he’d [the Brazilian driver] taken a bus down to meet us, we were…both concerned. And he didn’t speak much English, so you can imagine. So I’m calling Costa back here in Muricema saying, “You have any idea what’s going on here, it’s 3:00 in the afternoon? I’m about ready
to…frankly… I was ready to dump it. And…just go to…Muricema…. But in the end, Gabriel showed up right at 4, he got a taste of my uh…the fact that I was stressed [haha], ’cause I’d already learned by that time that he hadn’t even left Campos until 10:00. That’s what snapped inside of me! ’Cause there’s no way in hell you can get from Campos to São Paulo in under four and a half hours.

Williams, who had traveled a very long way, sat in a foreign airport for hours without contact and grew increasingly upset. Many factors came to play in this miscommunication beyond mere cost and convenience. First, Williams’ lack of Portuguese fluency made it highly unlikely (in the opinion of Benton, Costa, and Jo via face-to-face and chat conversations) that he could find a shuttle from the São Paulo airport to the proper bus terminal, purchase a bus ticket, catch the bus, and arrive at his hotel in Campos. Second, Brazilian rental cars represent a large expense. In addition, traditional passenger cars simply are inadequate for intercity travel, as major highways are poorly maintained, often poorly marked, and frequently unsafe. Third, traveling with his family back to the U.S., Gabriel needed to leave via São Paulo on the same day as Williams’ arrival. Unfortunately, leaving the country meant turning off his Brazilian cell phone service and Internet connection. Gabriel later explained that closing out his apartment went badly and that his car broke down on the way to the city. Without a cell phone, Gabriel had no way to phone Williams. Saunders and Ahuja (2006) consider this type of conflict as a relationship rather than a process related conflict.

After this break down in communication, Gabriel responded via email to the BRAZIL-L listserv: “I am beginning to learn the meaning of the adage, ‘pennywise [sic] and pound foolish’. I'm quite prepared for the lessons I’ve learned in this experience to stop, but I also want the inconvenience for everyone else to stop as well.” Gabriel offered
to deposit money in Williams’ account to repay him for unexpected expenses related to the car rental and his trip to Campos.

This miscommunication and the flurry of emails associated with it created a brief period of extreme discomfort for the entire VFT. After this experience, the team members in Campos, and later, Muricema, welcomed Williams and apologized for the confusion. Face-to-face time seemed to act as a solace for the emotionally strained group, reaffirming connections and genuine caring for the difficult trip.

Conflict, indeed, played a major part in group dynamics. Yet literature supports conflict as a natural part of the group formation and work process (McGrew et al., 1999; Tuckman, 1965). Other studies suggest that conflict is not only natural to the group process, but may spark forward movement to higher levels of performance as a context for collaborative problem resolving (Graham, 2003), particularly when group discussions center on constructive solution seeking (Peslak & Stanton, 2007). When trust exists between team members, problems can be approached without blame, seeking solutions that work in each site context. Successful resolutions can engender respect and appreciation among the members.

Tools Summary

Between face-to-face times such as visits and annual meetings, a variety of computer-mediated communication modes assisted the VFT in management and planning, but the physical time together was preferred. This shared time also became a time for problem solving and more open agendas, since meetings could be expanded over meals and even travel times between sites. In his interview, Benton explained, “We used IP video conferences, we used a listserv, we tried to do some sort of bulletin board, that
didn’t work.” What remained was the critical need to build relationships, and face-to-face time worked best for the team in developing those connections, resolving problems and miscommunication, and finding shared interests for expanding collaboration. The variety of ICT tools available and the intense nature of brief face-to-face meetings allowed business to be conducted in any number of locations and methods. Although not exhaustive, Table 4.5 displays many of these “locations.”

Table 4.5

**Meeting Locations**

<table>
<thead>
<tr>
<th>Meeting locations</th>
<th>Video conference</th>
<th></th>
<th>All of these could VOIP; in Apple iChat, this was called iSight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online</td>
<td>Chat applet</td>
<td>iChat</td>
<td>Yahoo Messenger</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MSN Messenger</td>
<td></td>
</tr>
<tr>
<td>Face-to-face</td>
<td>Airport/airplane</td>
<td></td>
<td>All of these could VOIP; in Apple iChat, this was called iSight</td>
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<tr>
<td></td>
<td>Terminal/bus</td>
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<td>Car</td>
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<td>Classroom</td>
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<td>Meeting room</td>
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<td>Beach</td>
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<td>Cell phone</td>
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<td>Landline telephone</td>
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<td></td>
<td>Skype</td>
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</tbody>
</table>

For Table 4.5, I considered email a type of discussion (asynchronous) rather than a meeting place. This table indicates some of the informality common to the team in determining their choices for task-technology fit (e.g., Massey et al., 2001).

Constructing Success

Throughout the period of the grant and its various personnel changes, the VFT tacitly accepted the written grant goals. No group discussions revisited the written goals,
nor considered their continued appropriateness. New members of the team moved in and out of grant management, intent on their assigned roles. If new team members had questions about the overall objectives of the project, they were not communicated via any of our group communication modes. Perhaps the closure of the major exchange period or our interviews caused members to reflect, but it appeared that the entire team may have benefited from periodic group discussion on objectives. Interestingly, during my interviews, few team members could remember the explicit goals, which I referred to as “goal amnesia.”

Illustrating this point, both Lucia Moreno and Guy Jones remained unaware of the goals; no communication or teleconference discussion introduced them to the written grant objectives. Although named as a lead grant faculty from the onset, Dr. Maria Oliveira was largely inactive until the major exchange period. All three of these team members functioned as teaching assistants or instructors for the field courses; yet, during interviews, they demonstrated limited knowledge of the larger activities between the universities. When asked if she recalled the initial goals, Lucia commented, “Actually not. The reason I got involved was [that] I’m from Brazil and I’m working on my master’s project….” Jones also responded by saying, “No… So I never really… I didn’t have any…, in answer to your question, I never got an indication where I wasn’t helping you to meet your goals.” Maria commented, “No, I began participating much later in the project. The principal person was Cadu [her husband]. I was busy; I met the people and agreed to work in the project but…it’s a problem, the documents were in English.” Maria seemed unaware that matching Portuguese documents were submitted to CAPES for the
Brazilian side of the project. All three seemed uncomfortable at not knowing more about the overall goals of the project.

Leão Bezerra, who joined in year two, was an exception. He recalled objectives more closely than the others and correctly remembered that the primary goal of the project was multiculturalism, the secondary goal was technology integration, and the third was university connections and research so that “we as researchers can also collaborate.” Even Rui Costa, one of the grant writers, could not recall the original language of the grant goals: “I’m not really sure if we [sic] remember.” Generally, Costa thought the grant focus was the establishment of “partnerships between the public schools and to use technologies, the communicative functions, to establish these partnerships between the schools and exchange knowledge about different cultures, different nationalities as a way to approach different cultures.” With a failing memory, Costa stated, “I know we had eight bullets. I just don’t know what they say any more.” Costa also suffered from ‘goal amnesia.’

Ben Gabriel named three goals that he believed to be most important to the grant’s intent, stating, “1 was to experience and appreciate cultural differences and world perspectives; 2 was the use of technology...to enrich interactions across cultures, increasing cultural understanding; [and] 3 – I think learning fits in there but that’s sort of implied.” His memory of the goals tended toward global issues rather than specific objectives.

Having little regard for the stated goals, Bruce Benton jokingly commented, “There’s all this crap we had to go through.” For Benton, the critical ideals began with project conceptualization. In his opinion, his “driving interest”
related to increasing the exposure of the traditional white, female preservice
teacher education student in the rural South to other world cultures. According to
Benton, all of the other grant objectives simply satisfied the funding requirements.
The grant required formal partnership agreements; Benton held up his palms,
shrugged and remarked, “...so now we have these partnerships.” As a result of the
grant requirements, we created documents to support credit and student exchange
between all four institutions.

As with other team members, our interview sparked reflection for Carl Williams,
the project evaluator. During his interview, Williams stared at the ceiling and asked,
“Hmm…what were the original goals?” As evaluator, he defined his role as helping to
determine how successfully the project had performed. Williams asserted that we need to
know if “...we [have] achieved these [project goals].” Our interview occurred during his
final trip to Brazil to collect interview and observational data for a final evaluation report
to the funding bodies on project completion and success.

During the interviews with the VFT, each member of the team, despite joining the
project at different points in time, managed to construct answers approximating one or
more of the written goals. To that end, the group successfully managed to communicate
some goals to later team member additions. Each member focused on one or more
elements of the project as most important; these variations equated to their own personal
interests.

Success in the literature is often defined in terms appropriate to the type of team
studied. For example, Saunders and Ahuja (2006) measured student team performance on
the basis of scores – a common measure in educational team studies. Business related
studies tend to measure success as goal attainment, often as determined by a third party such as a supervisor (Briggs, Reinig, & de Vreede, 2008). In this project, the VFT did not schedule a time to jointly consider project success. Members did not initiate any discussion on the topic of success other than to reflect on specific instances and student experiences as anecdotal evidence of positive results. However, study interviews spawned reflection on the topic individually as I visited with each member.

Sometimes participants began interviews unsure as to whether the project had been a success. Benton remarked, “We achieved that [exchanging preservice education majors] with an N of 1, and I don’t think that is successful.” He went on to discuss the concept of sustainability as a future measure of success, stating, “At this point I don’t know if it is going to be successful.” Benton, like Williams, wanted to allow some time for reflection and additional interaction between the partners. Both Benton and Williams counted ongoing partnerships as a major goal of the project and time was needed to determine if the partners continued their collaborative efforts.

Others were less ambivalent about evaluating project success. Without hesitation, Leão proclaimed the project a success. Particularly, he looked at the students as a measure for success. Expressing his hopes for the future, Leão stated, “We want them [students] to bring that [instructional design information] back and teach the others.... To me it would be great if we could offer that course to our [other] students.... To me that would be a success.” Likewise Gabriel’s evaluation was glowing: “Oh, I mean as far as I’m concerned, it’s an overwhelming success. It’s been for me—I’m speaking selfishly now—it certainly changed my life.” Costa and Jones mentioned the strengthened relationships between the universities and the local schools, which had been a point of
personal interest for them both. Costa felt that sending the students to the local schools was critical event, stating, “It helped foster and maintain the relationships between the universities and the schools, UFN and USS and the others. I think it was successful and I like it.” In particular, Costa talked of building a personal relationship with the teachers and administrators at the local schools and felt the mission of the university should be to serve as outreach and support for community educational efforts.

Power

Beyond communication barriers, other elements may lead to possible conflict among international virtual teams. Social and cultural barriers may derail understanding, as well as simple independence among faculty and workflow constraints which may also affect virtual team performance (e.g., Cervero & Wilson, 2001; Forcey & Rainforth, 1998; Kimble et al., 2000). Researchers concur that the university provides a context for the push and pull of power among students, faculty, and administrators (e.g., Cervero & Wilson, 2001; Johnson-Bailey & Cervero, 2002). A virtual faculty team provides an electronic context for these problems to arise as well.

In this study, Benton operated as the lead grant investigator. Other professors operated in lead positions at their institutions, while doctoral and master’s students worked in varying capacities. Costa and I were responsible for writing the grant and ostensibly held leadership positions but often felt we lacked the authority to influence events and behaviors at other sites. When reflecting on a lack of cooperation in aligning exchange courses, Costa remarked, “I’m only a doc student, now a professor has a lot of [expletive] to do so maybe…it’s the best level of a partnership you can reach.” Costa and I continued to feel less influential and isolated – an ongoing source of frustration for us.
Costa commented that our opinions were “valued” but ultimately decisions were made by the professors in the group. Regarding team influence, Costa noted, “No, I didn't feel like a full fledged member…. In a sense I feel caught between being one of the students and a colleague.” Frustrated, he felt “we were on the ground” but the professors often did very little of the “dirty work.” Stymied by slow starts in the online classes, Rui vented saying, …about half the people [students] did it [the homework] and Campos didn't do it at all because they had that week off…they thought we should go by their schedule which is ridiculous!

After discussing the problems, Costa and I presented our concerns at one of the weekly video conference sessions. The problems included lack of school visits by students, student projects that failed to materialize, student dissatisfaction at the UER campus, among others. As instructors, Costa, Maria, Jones, and I suffered from a number of problems in our classes because of the lack of coordination between the various sites. It seemed as though each instructor wanted to pursue a separate agenda though student projects needed to be aligned between the sites and classes.

We each assumed our calendars were similar but discovered differently when the fall 2005 semester began. This oversight represented locally held and unshared information or an information silo. A problem acknowledged in corporate teamwork, Cole and Cole (2000) note that “silo management” must be addressed to increase group productivity (p. 56). Calendars and local operations are particular examples of unintentional information or knowledge silos in the EWP project.

Significant discussion via email and video conferences ensued in an attempt to resolve the various problems between the sites and the exchange classes. According to
Gabriel, the WSU students in Campos had “no other available time” to meet online except the period already dedicated to Costa’s multicultural course. If we wanted field course access to the WSU and UER students, Costa must provide time during his class meetings.

Also, student discontent with Maria Oliveira’s field course was resolved through a series of closed video conference meetings between WSU and UER. Though I asked for access to these meetings, Gabriel contended the atmosphere was too fragile for my attendance. In addition, results of these meetings were not provided to other team members. As a resolution to the student dissatisfaction, Gabriel and Jones chose to lead the Campos field course themselves, using the WSU syllabus for readings, activities, and assignments. Essentially field courses operated in a paired fashion mirroring the bilateral partnerships: UER and WSU functioned with the same syllabus and similar calendars; USS and UFN, I taught and used the same syllabus and the same calendar. Despite the divisions among the field courses, the VFT created a set of mutually agreeable actions:

1. to work toward connecting each student project with at least one other project abroad;
2. to use the multicultural course as a place to discuss projects and connections;
3. to select problem student projects to oversee individually;
4. to align due dates when possible;
5. to share a web space for student project development; and
6. to share a final presentation time for student field projects.

These group decisions resulted in a stabilization of the field courses at the four sites.
Other members complained of equally frustrating issues. Guy Jones felt uninformed of grant goals and unaware of the need to align the field courses. Yet, Jones declined to answer questions regarding his equality among the team. Dissatisfied students, multiple languages, and the myriad of new technologies overwhelmed Maria Oliveira. Among team members apart from the lead PIs, Lucia Moreno was the only member who did not report a problem with communication or confusion regarding her role and influence. Since the VFT selected a time for video conferences when Moreno could never attend, her only contact was with Benton and me. When asked if she was treated as a full team member, Moreno answered, “Totally! You guys always made me feel included!” Moreno’s main point of displeasure existed in the local schools. As my field assistant in Oakley, Moreno worked with the teachers; she felt many of the teachers used the exchange students to “baby-sit their students. They [the exchange students] were treated badly and the kids just didn’t benefit from the opportunity like other classes did.”

Power among the members presented a difficult balance between the professors operating as university leaders and the rest of the team who often shouldered much of the work with the exchange students and teaching the various classes involved in the project.

Hosting

The major student exchange represented an increased level of connection between the partner universities through their exchange students. Specifically, each VFT member wanted to provide an enjoyable cultural and learning experience for the visiting students. During PI visits, members were taken to the beach or the mountains, treated to dinners, and given tours of local sites. It was an excellent time to illustrate the benefits and assets of each university. Often costs for these hosting efforts were shouldered by VFT
members themselves. In addition to monetary costs, individual VFT members invested a great deal of time and effort. Frequently, other VFT members remained completely unaware of such efforts provided and expenses covered by hosting partners. For example, Maria Oliveira paid deposits and purchased furniture for the WSU students; Costa, Benton, and I pre-paid apartment deposits for the UFN students; Jones escorted students to basketball games and cultural exhibits and cooked Thanksgiving dinner for them; and Carl Williams took students to football games and loaned one student a television for the duration of her visit.

I informed VFT members of some of these efforts during our November and December 2005 visits. All of the members appeared surprised and pleased to hear the extent of the student hosting that occurred. Benton remarked on the importance of these acts, saying, “I think that the kids that came to USS, they didn’t call me ‘Dad,’ but they felt like I was behaving like their dad.” Benton felt a great deal of paternal responsibility for the students as a part of his duty to the partner institution. He explained, “If the kids I sent are like my children, then the kids they sent are like their children. And if you are having a partnership with friends, and your friends send you their children, you’re going to take care of their children.” He enjoyed the opportunity to meet and to learn from such “interesting people.” Benton further commented, “I gain insights on my friends through their children.” In particular, the knowledge and ability of the exchange students communicated the strengths of their home institutions. Benton was impressed by the UFN students’ mastery and depth of knowledge on educational theory, for example.

Table 4.5 indicates some of the hosting locations used for VFT meetings. For instance, the Brazilian members always planned downtime for the group at the beach and
at mountain retreats. Despite the relaxed atmosphere, work related topics always arose during conversations. Thus, team meetings could occur in any number of places, including at meals, during recreational outings, and at more traditional locations such as meeting rooms and offices. This willingness to entertain contributed to a sense of inclusion and affection among the VFT members and was often remembered with such terms as “great,” “fantastico,” “bellisima,” and “powerful.” According to Leão, these special efforts at building relationships through hosting allowed for greater empathy. He stated, “It makes you more, I’d say, more easy to get along with people. You can be more comfortable when something is not working that we can come and say, ‘Oh, this is not working; let’s do something to make it better.’ And there’s more feeling and we can talk about problems and success.” That respect for others during problem periods indicates a high level of group cohesiveness as termed by Schutz (1966). The nature of the student exchange and online course coordination required a building of trust among VFT members. In addition, Aubert and Kelsey (2003) found that trust building was secondary only to strong communication links in determining team performance. According to Kankanhalli et al. (2006), strong, rich communication forms a foundation for successful performance because global virtual teams experience greater conflict due to time differentials resulting in communication delays in addition to confusion due to cultural and language differences. The ability to communicate directly, frequently, and honestly suggests a greater potential for success for global virtual teams.

*Herrnstein’s Matching Law*

When asked about grant obligations, Ben Gabriel mentioned a theory that he casually called “Herrnstein’s Model” as a way of understanding our partner relationships,
the strength of connectedness, and investment costs. [The model is actually named Herrnstein’s Matching Law.] For Gabriel’s department, the project budget did not cover its expenses – at least regarding man hours. His office considered it “our loss leader.” Unfamiliar with Herrnstein’s Matching Law⁴, I asked Gabriel to elaborate. He explained the concept as “reciprocity among parties,” or a relationship between what is given and what is received among partners. Despite the lack of sufficient funds, in Gabriel’s estimation, he and his office grew “committed” to the extent “that if [they] were to remove all of the funding from this project, [they] would still want to do it.” As revealed in his interview, Gabriel’s strongest memories related directly to shared experiences with exchange students, rather than other VFT members.

The following day, I mentioned Herrnstein’s Matching Law to Benton, who seemed intrigued. Regarding the “getting and giving issue,” he noted, “frankly... [I would] say that we have given the most. We have bent over backwards.” So between the VFT members as partners, there were times when relationships could also be strained. These concepts of partner contributions and benefits are also supported by the literature on power and educational contexts, where Cervero (2001) notes that such professional partnerships must be founded on mutual benefit.

Each participant expressed individual perspectives on project success and the focus of that success. Each saw varying complications and found resolution through reflection on his own sensibilities of key events. The unifying theme among participants was a sense of connection for various kinds of relationships formed throughout the project and thus as a result of teamwork. For Benton, Leão, and the Olivieras, developing

friendships and professional relationships among the other VFT members was most important. For Gabriel, Jones, and Williams, the relationships with students and families stood out as most successful. For Costa, Jones, and Moreno, the connections made with K-12 teachers suggested a sense of inclusion and identification with that group perhaps more than with the professors in the VFT. Yet each participant discussed success in terms of experiences shared with other educators as a result of the work through the project and the VFT.

Summary

Chapter IV has provided a view on the communication tools, their uses, and their problems, as well as on participant perspectives, giving a deeper, more reflective perspective on teamwork, power, and success. Specifically, the chapter discussed the results of an examination of the use of various communication technologies employed by the VFT in order to conduct the daily business of project management within the Emerging World Perspectives grant. Video conferencing was noted by four participants as the single most critical technology employed for the purposes of management between the four institutions. Chat applets, including VOIP, and email followed in importance for regular communication. Some technologies were not cross-platform compliant, resulting in a communication barrier between various participants. Face-to-face communication was mentioned by three participants as their preferred method of communication, although it was rarely possible given the distance between the sites. Additional technologies included landline and cellular telephones and electronic collaboration spaces. The team used these technologies less for various reasons, including cost and unfamiliarity. Miscommunication occurred on occasion, and participants combined
various communication tools, such as instant chat messengers, email, and scheduled video conferences in response to important arising events.

One topic which generated positive remarks was visitor hosting. Each site hosted not only exchange students, in essence as guests, but also VFT members visited each location as well. This welcome hospitality among members allowed faculty to point out the strengths of their home institutions and provide time and opportunities for social bonding among members.

Yet, within the functioning of the team, stresses and miscommunication still existed periodically. Miscommunication occurred sometimes due to language and culture barriers as well as time differentials between sites. Stress and conflict erupted occasionally as team members learned their roles and they developed an understanding for the process of their group work. Power issues exist among all work groups – certainly among academics who most commonly work alone. The normal role of content expert and independent thinker must be sorted out in order to put the goals of the team first. In this case, team members worked best as interdependent rather that completely cooperative. The variables of each site, particularly academic and local school calendars led to more local decision making for certain elements of the exchange process. When conflict arose, members were able to find common ground and move forward.

In the section on creating success, members measured project success in individualized ways. Though two of the participants began their interviews with some question as to whether the project was indeed a success, further reflection allowed them to construct a personal logic for team achievement. Others steadfastly agreed that the project was a success, although topics discussed varied among participants as successful.
Generally, success, as revealed in interviews, fell into three categories: student experience and satisfaction, university partnerships, and local teacher and school partnerships. Ultimately, each member of the VFT found elements of the project to cite as a success.
Chapter V uses the major themes introduced in Chapter IV as organizers for further discussion. The first theme, communication tools and methods, is subdivided into two subcategories: (a) problems and fragmentation and (b) information silos. The second theme, creating success, explores the results of communication and collaboration as it relates to meeting the stated goals of the grant, power complications within the group, and participant perspectives on success. Results from data analysis provided answers to the research questions posed. The discussion in this chapter provides the reader with greater insight into and explanation of group perspectives on project outcomes and relates themes to the literature provided in Chapter II.

Communication Tools and Methods

During the life of the project, communication played a key part in planning, management, implementation, and problem solving. Communication, a necessary component of teamwork, occurred through face-to-face meetings, video conferencing, email, and ICTs - including chat and VOIP, cell phones, landline telephones.

The VFT members used all of the tools listed in Figure 4.2 to varying degrees based on personal workflow, technology fit, and availability. No clear relationship between tool use and purpose existed. For example, video conferencing, face-to-face meetings, or rounds of listserv emails provided a means for group decision making. Chat tended to be used between two persons, although Benton, Costa, and I also used it as a
quick conferencing tool. In addition, chat was used for work purposes among bilateral partners, generally because those groups shared chat login information early in the project. This use of low media richness technology was consistent with the Lo and Lie’s (2008) research, which found such use indicative of high trust between team members. According to their research, members with a history of shared communication experience require little negotiation of meaning, and therefore, brief messages contain tacit understanding and require little additional explanation.

Furthermore, no developmental linkage in team process existed between the uses of various tools. For instance, an important message might be first sent via chat text message just as easily as being announced at a video conference, as was the case in the budget scare of October 2005. Particularly because of its awareness tools, chat allowed for immediacy of communication. In other words, seeing a partner online provided a direct line to share urgent information, normally followed by a formal request for a video conference session with the VFT team. Whenever richer medium choices existed, the relationship between length of conversation and importance of the topic showed a richer communication medium choice. The VFT most commonly used video conferencing for its richer communication, operating in essence as a face-to-face communication mode since partner visits were limited to biannual events. The literature on media richness theories confirms that people tend to select richer levels of media whenever ambiguity and unfamiliarity exists between parties (Daft & Lengel, 1986; Lo & Lie, 2008; Otondo et al., 2007).
Problems and Fragmentation

Problems in communication technology included reports of technical problems, lack of access to hardware, incompatibility of software, and cultural variations in cell phone use. On occasion, reports of entire system failures resulted in a lack of connection or miscommunication between two or more parties, resulting in delays and frustrations. The various communication problems and breaks in communication lines between sites led to fragmentation, such as withholding of information, whether tacitly or explicitly.

The VFT preferred video conferencing for group VFT meetings throughout the life of the grant. Such meetings required scheduling across four time zones and around the VFT members’ schedules, but provided a rich level of communication in a synchronous format. Team members enjoyed the ability to work rapidly in a natural conversation-like manner and to interact socially.

Video conferencing did present some complications, however. While UER owned a Polycom system, the Oliveiras were unable to access it. In year two, USS donated a small unit to UER for the Oliveiras’ use, but at times connectivity remained an issue. Further, Cadu Oliveira spent approximately half of each month in São Paulo, where he was unavailable for video conferencing. One problem with video conferencing for the Muricema site was the intercity travel via buses for Costa and me. Other VFT members were not faced with this same issue because most (7 of 9) used personal cars for daily travel.

Incompatibility among Apple and PC chat applets at the time of the grant project broke lines of communication between various team sites and members. However, this lack of compatibility did not result from a lack of access to a single type of computer.
(e.g., Macs or PCs), but rather from a workflow choice. The majority of VFT members (n = seven) used MSN chat, a PC-compatible application, for daily communication. The WSU members used Macs exclusively, although PCs existed in their department. It was understandable that busy academics and professionals might choose to use their normal personal computers and tools rather than switch simply to increase chat communication with other VFT members.

Two of the field course instructors, Maria Oliveira and Guy Jones, did not share their chat information with other team members until near the completion of the major exchange period. Both cited busy schedules as a possible reason for the delay, and Maria noted her lack of English language skills as a distancing factor. This information storing affected the field course coordination. Because the field course instructors did not share a single communication applet and email responses trickled through slowly or received no response at all, the four courses remained separate with the exception of connected student projects. Costa discussed the problem, recalling, “It became four local courses…it [sic] was something missing there.” Jones, too, confirmed the separateness of the courses: “I had no indication that I was supposed to interact with the other four courses.” During her interview, Maria reported that period as “swimming in problems” and noted that she worked “solzinho” [all alone]. Maria reportedly longed for information and assistance at that time. According to Kankanhalli et al. (2006), lack of feedback immediacy is common among broadly distributed virtual teams and leads to task conflict at various sites.

At one point in the course coordination, Costa’s Portuguese provided an opportunity to synchronize school tours at the two Brazilian sites. Students at both the Campos and Muricema sites toured private schools on the same day. This allowed the
multicultural class to discuss the implications of economic disparity in the Brazilian education system during the following class session. However, this level of coordination remained the exception. According to Aubert and Kelsey (2003), over the life of a project, trust decreases among partners who share little face-to-face experience and are separated by physical distance. This void of synchronous communication between sites effectively removed a direct line of communication and created knowledge silos at WSU and UER. Breaks in communication lines among physically distributed groups often escalate rapidly, resulting not only in miscommunication, but also in damage to a fragile sense of trust (e.g., Cramton, 2001). This lack of information sharing and local storage of information may indicate a low level of trust among these two newer members of the VFT.

Miscommunication occurred on a number of occasions. Sometimes these instances were resolved rapidly by virtue of the frequent video conference sessions or a series of emails. An example of easily rectified miscommunication included the clarification of visa procedures between Leão and Gabriel when planning for the spring 2006 minor exchange. Gabriel assumed that because Brazilian visas required weeks to process, that U.S. visas also required several weeks. In a series of four emails, Leão assured Gabriel that Brazilians received U.S. visas within 24 hours because their interview applications occurred in person. Thus the two parties scheduled a video conference to plan the spring exchange rapidly due to its short timeline.

On other rare occasions, the confusion spiraled out of control, with miscommunication affecting the entire VFT. Examples of these problems included the incident around Carl William’s last evaluation trip to São Paulo, as discussed in Chapter
IV. This type of miscommunication illustrated understandable problems caused by another tacit assumption. In this case, Williams assumed the communication tools in South America were similar to those in the U.S. when, in fact, they were quite different. In Gabriel’s words, “I appreciate the fact that Brazil isn't the U.S., and we love it for just those reasons. We take all the differences, the good ones and the ones that aren't so good.” With that note, the largest miscommunication event faded from group discussions. Although Gabriel willingly offered to pay for Williams’ added expenses, he pointed to the limitations in Brazilian communication technology rather than accepting personal blame for the confusion.

Thus, various and individual communication patterns operated at each site based on the availability of communication tools. Membership on the team required only subscription to the BRAZIL-L listserv. No single synchronous communication tool was identified for the VFT. Although Benton was the lead grant PI, all of the professors operated as peers, each being ‘in charge’ at their own institutional sites. Use of communication tools became individualized by each individual’s normal workflow and habits. Thus, regarding synchronous chat for immediate contact, the team was fragmented among applets, computer platforms, and contacts listed.

Information Silos

Distance and time led to storing of information at the various sites, resulting in information silos at each site. Individuals made an effort to reduce information overload by not sharing local information to other partners when it seemed unnecessary. Also, as busy professionals, time was a valuable resource, particularly the limited video conferencing time. Often video conference discussions centered on resolving the problem
of the day, forcing limited agendas information sharing. Thus, storing or censoring of information between sites became a general mode of operation. For example, where the email discussion about visas arose, information storage of tacit knowledge was unintended; members could not estimate what other VFT members knew about local rules and customs. In that instance, Gabriel, as a late addition to the VFT, had not learned about U.S. visas for Brazilians and other VFT members did not realize his lack of knowledge about the process of immediate visa issuance.

Other information, while shared in sub-groups, was not necessarily shared with the larger virtual faculty team. For example, the private video conferences held between Gabriel, Jones, and WSU students in Campos reportedly helped to resolve student satisfaction issues, but their results were not reported to the larger group. While Maria Oliveira attended one of these private video conferences, other VFT members remained unaware of meeting dynamics. Even Jones admitted that he was not “privy to everything” that went on with those video conferences. After Gabriel’s arrival in Campos, Jones admittedly “dropped off the scene.” Despite repeated requests for outcomes for this research, no information from Gabriel on what he termed the “interesting situation” was forthcoming.

Some information, although communicated, simply could not be truly appreciated by outside parties. Examples included the lack of Brazilian bus schedules for the cities and the reduced access to university facilities. These facts of life for Muricema and Campos never penetrated the consciousness of VFT members at the U.S. sites. Team members in the U.S. often requested video conferences at times when Brazilian buses did not run, when intercity traffic made travel impractical, or when Brazilian campuses were
closed. By the same token, the frequency of Brazilian holidays and frequent interruptions in city infrastructure made it difficult to anticipate availability of campus facilities or reliable travel through the city.

In summary, the shared experience of the major exchange provided a valuable period of collaborative work for the VFT. The experience illustrated the problems inherent in such a collaborative effort. Inconsistencies in communication tools created a barrier to synchronous communication. Reliance on email and its delayed responses could lead to confusion and miscommunication, damaging fragile trust between members. In particular, late additions to the VFT worked to complete their own tasks but failed to capture the scope of the larger project; for example Jones, who admittedly did not recognize the need for coordinating efforts between the separate field classes. Also, although the frequent video conferences provided a richer communication opportunity, these meetings were run in a businesslike manner. Video conferences normally began with a rundown of the day’s agenda centered around problem solving which did not necessarily promote the development of a shared culture (e.g., Earley & Mosakowski, 2000; Starke-Meyerring, & Andrews, 2006) or a clear interdependence between sites (Hertel et al., 2004). Therefore site independence may have contributed to a sense of separation between sites reducing perceptions of inclusion and collective project control.

Constructing Success

The VFT worked jointly and independently to accomplish the daily functions and greater goals of the EWP project. The phrase “constructing success” was intentionally selected to impart two concepts. First, the team worked together in varying levels of interdependence to achieve the goals of the grant. Second, personal interviews illustrate
varying concepts of success as held by each individual member. Some team members began their interviews questioning project success. Yet our discussions allowed for personal reflection on events of the exchange period. By the end of our interviews, all of the members rationalized that at least some elements of the project could be considered successful. Over the period of 2002 to 2005, team membership changed, but stated grant goals were not updated or revisited in the day-to-day urgency of project management. In addition to the press of grant activities, all of the VFT members had busy schedules and thus constantly had to work to balance their competing agendas.

**Goals**

Written project goals originated in the FIPSE-CAPES grant application submitted in 2002. Rui Costa, Bruce Benton, and I created the eight bulleted objectives. The project continued to evolve over time, affected by numerous changes in institutions and leadership (see Appendix X for more information). Such accommodations allowed for the continuation of grant efforts and resolved arising problems, but existing partners tacitly assumed new partners understood and accepted the enumerated goals. No joint discussion of goal meanings occurred to help ensure that new members understood the purpose and process of the project. Team literature closely ties goal setting with member perceptions of efficacy, quality performance outcomes, and goal achievement (Hardin et al., 2007; Hoegl & Parboteeah, 2003). In addition, the strength of team communication is tied to beliefs in the ability to achieve tasks and overall goals, resulting in stronger collective group identity (Earley & Mosakowski, 2000).

Interview transcripts revealed that most participants could not remember the goal statements and certainly did not remember the exact language. This “goal amnesia”
resulted from late participant entry, language and cultural differences, and perhaps the passage of time between grant application and implementation. Some participants remembered goals as broad, general concepts. Thus, activities embedded in the project resulted in a contextual communication of the goals, at least adequately to keep tasks generally in line and similar from site to site. Project implementation took on energy of its own, with course development, student selection, partnership documents, visas and other travel documentation, institutional reciprocal course credit, exchange, hosting, teaching, and more. Ultimately, the project and its courses reflected the stated goals without a deliberate discussion among the VFT. Yet there always existed the pull of individualism at each site, as is common among virtual teams (e.g., Hardin et al., 2007), particularly among independent faculty as peers (e.g., Austin & Baldwin, 1991; Cervero & Wilson, 2001; Johnson-Bailey & Cervero, 2002).

By the end of the major exchange, the distance and project details had been trying for all the VFT members. In fact, as the intended university exchange students, preservice teachers poorly fit the normal departmental student body for 3 of the 4 universities. The only school that commonly worked directly with preservice education majors was UFN in Muricema. For the other three partners, recruiting preservice education majors stretched their normal student base. Under Benton’s direction, the team began to think about future collaborations as defining “sustainability” as a marker for success. The VFT discussed new ideas for collaboration and grant topics, building on the strengths and interests of each, which ultimately led them to write another joint grant. This new endeavor together fulfilled one of the initial grant goals – the creation of university partnerships. Benton, Williams, and Leão specifically mentioned continued engagement
between the members as a marker for success. In essence, the process, experiences, and challenges of the exchange period established a shared history – even one full of hardships – for moving forward needed in creating a sense of community (e.g., McMillan & Chavis, 1986).

**Defining success**

Success is an illusive concept. Initially, I expected participants to be aware of the original stated goals of the project and to express a strong sense of whether those goals were realized. However, as mentioned earlier, most participants either never knew the original goals – like Maria, Moreno, and Jones – or they could not recall the specific language of those goals, which I have referred to as “goal amnesia.” Table 5.1 shows a cross section of grant goals noted as success markers as recalled by the VFT members. These recollections regarding goal agreement were taken largely from interviews, but some also came from debriefing comments made after meetings and from emails when participants notified other VFT members of “successful” moments. In addition, in answering the interview and probe questions regarding success, some participants mentioned additional factors as being indicative of project success; these additional six factors appear at the bottom of the table and are marked as “other participant success markers.”
Table 5.1

Grant Goals and Participant Identification as a Success Indicator

<table>
<thead>
<tr>
<th>Grant Goals</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rui Costa</td>
</tr>
<tr>
<td>1. Joint institution cooperative agreement</td>
<td>X</td>
</tr>
<tr>
<td>2. Institution technology integration certificate</td>
<td>X</td>
</tr>
<tr>
<td>3. Student foreign language proficiency</td>
<td>X</td>
</tr>
<tr>
<td>4. Cross-cultural collaboration curriculum</td>
<td>X</td>
</tr>
<tr>
<td>5. In-country partnerships</td>
<td>X</td>
</tr>
<tr>
<td>6. Faculty involvement curriculum design</td>
<td>X</td>
</tr>
<tr>
<td>7. K-12 student apprenticeship opportunities</td>
<td>X</td>
</tr>
<tr>
<td>8. Long-term student/host relationships</td>
<td>X</td>
</tr>
</tbody>
</table>

*Other Participant Success Markers

<table>
<thead>
<tr>
<th></th>
<th>Rui Costa</th>
<th>Leão Bezerra</th>
<th>Maria Oliveira</th>
<th>Cadu Oliveira</th>
<th>Bruce Benton</th>
<th>Ben Gabriel</th>
<th>Guy Jones</th>
<th>Lucia Moreno</th>
<th>Carl Williams</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student understanding of the difficulties of international</td>
<td>X</td>
<td></td>
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<td>education and technology integration</td>
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<tr>
<td>2. Student exchange</td>
<td>X</td>
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<td></td>
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<td></td>
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<td></td>
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<tr>
<td>3. Student experience</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sustainability</td>
<td>X</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Personal understanding of another culture</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Students’ ability to view their own cultures</td>
<td>X</td>
<td></td>
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Participant responses illustrated continuity in that they most commonly remembered the stated goal of K-12 student apprenticeships. Indeed, most team members focused on issues related to students’ learning and experience, including student exchange, student experience, students’ understanding of international education, technology integration, and students’ ability to view their own cultures. Student learning and experience stood out as the single largest agreed upon element of success. Benton represented the only
individual making no special mention of student apprenticeships or experience. At the same time, Williams, Benton, and Gabriel agreed on the importance of connections between institutional partnerships. Yet Benton alone adopted the phrase ‘sustainability’ as a success indicator, and pushed the team towards its next grant application. Cross-cultural collaboration in the curriculum was recognized as a success by all three Brazilian VFT members, as well as Ben Gabriel, the only U.S. VFT leader to spend a block of weeks working on-site in Brazil.

Problems and Barriers

Competing obligations or agendas continually posed challenges to project success. As busy professionals, the VFT constantly juggled other responsibilities. Benton, Gabriel, Cadu, and Maria Oliviera led departmental programs and taught courses, among their other duties. Costa and I gathered data for our dissertations and collaborated on publications while teaching and living in Muricema. Lucia Moreno and Guy Jones worked to complete advanced degrees and teach while simultaneously hosting and teaching or assisting with the field courses. Well aware of this balancing act, Williams measured project successes and challenges by noting, “Probably the things that have most worked against us are these agendas…these additional agendas.” Competing agendas also extended to the limited time spent in Brazil on trips or projects apart from the EWP efforts, diluting individual attention towards grant project agenda items.

Sometimes participants began their interviews sounding unsure as to whether the project had been a success. Ultimately, each interviewee talked through the events and complications of the project experience, finding success in various elements. Benton termed recruitment of preservice teachers a failure “with an N of 1.” The majority
focused on the students as success markers. At the time of the interview, Carl Williams reserved evaluation, saying success might be “known six months after the project is over” in determining “how these four institutions continue to collaborate with each other.” In the final evaluation report of February 2008, Williams declared project success in a number of “positive aspects.” Given the complexity of the exchange, he commended faculty leadership for overcoming “implementation issues.” Williams thought it laudable that as problems arose, team members responded quickly and decisively, taking positive action to keep the project on course. This dynamic adaptability is a strength of distributed teams providing local knowledge to the collective to be leveraged towards shared group goals (Baker, Day, & Salas, 2006).

Despite their inability to state the goals in the original language, all of the participants found the grant to be a success that met many of its goals. Each person viewed success via different aspects of the project, depending on individuals’ perspectives.

*Power among Faculty*

Individuals bring assumptions to group work, including beliefs about position and power. Faculty are no exception to such individual power struggles. In general, individuals desire a sense of control, and this extends to virtual team work as well (e.g., Lee-Kelley, 2006). Any educational context, typically a classroom, presents a leader, often a faculty member, as well as followers, normally students (e.g., Cervero & Wilson, 2001; Johnson-Bailey & Cervero, 1997). Faculty often work alone as the sole arbiters of the educational agenda within their classrooms (e.g., Austin & Baldwin, 1991; Forcey & Rainforth, 1998). Despite its potential benefits, collaboration among faculty creates
questions about this independence among peers (e.g., Austin & Baldwin, 1991; Forcey & Rainforth, 1998; Herrington, 2004; Sapp, 2004; Schrum & Hong, 2002; Shibley, 2006). Indeed, Johnson-Bailey & Cervero (2002) note that among mentoring partnerships, the relationship must benefit both parties equally. In fact, Austin and Baldwin (1991) agree that benefits must be reciprocal, or faculty will not participate in collaborative efforts. In this study, some power concerns included the peer relationship between site leaders, the position of doctoral students as instructors and assistants, and the use of English as the accepted language for management tasks.

Benton operated as lead faculty and controlled the project budget. However, he often allowed each site to make individual decisions. Part of this linked back to the bifurcation of partner sites – UER exchanged with WSU and USS exchanged with UFN. Another piece of this independence linked to the need for each site to complete similar tasks under local and differing circumstances. Exchange student selection, for example, differed in process and timing at each institution. This process created a sometimes uneasy balance between peers. The unwillingness of WSU to find a shared time for the field courses is an example of this uneasy balance.

The position of doctoral students and assistants also created an uneasy balance. Costa noted his feeling of doing the dirty work while professors made the decisions while unaware of the stresses of actually performing the tasks. When WSU exchange students repeatedly failed to observe performance deadlines, Costa requested that Gabriel intercede. Gabriel’s success settled the problem but frustrated Costa, as he became more aware of his lack of sway over the WSU students. Jones bristled in his interview when questioned about a lack of collaboration between the field classes, retorting that he had
not been aware of a time when he did not coordinate with the other courses. On the positive side, Moreno remarked on her feeling of acceptance and empowerment when working with Benton and me. Yet, when working in the schools, Moreno commented on the stress of working with uncaring teachers who frequently took advantage of the exchange students by using them as babysitters and failing to collaborate in developing challenging and exciting multicultural assignments.

As in any GVT, language and culture played a critical role in the EWP project. Any project team must select a shared language, and that selection extends a power to native speakers (Garcia & Canado, 2005). In this project, most of the participants possessed some English ability, while some team members spoke no Portuguese. Maria Oliveira complained that language was “the wall.” When the WSU students displayed dissatisfaction in Campos, Maria’s efforts in the field course floundered. With low English comprehension and lower skills with communication technologies, Maria felt alone and wished for help. Yet in video conferences, she normally sat silently by as the meeting occurred in English. When Gabriel arrived in Campos, Maria abdicated the field course to him. Early during the problem period, I offered to travel to Campos to assist Maria. She replied ecstatically, but Gabriel sent a long private message saying the student situation was being handled, and while he could not keep me from visiting Campos, he did not want the students to feel “the cavalry had arrived.” This response illustrates the sometimes ambiguous nature of a loose partnership among academics; the student, even on the doctoral level, operates under the auspices of the professor. In academic partnerships such as VFTs, the graduate student may feel pushed and pulled by the power
struggles and left without direction. This suggests that even in the electronic classroom, professorial power cannot be checked or removed.

Throughout the project, the collaboration among the team members waxed and waned depending on other competing demands on their time and the severity of the problems. Like many professional educator groups, the VFT sometimes held more traits of a community of practice, with high activity driven by problematic events, rather than an interdependent virtual team with a clearly established leader.

Hosting

While some efforts at collaboration and building relationships did not work as well as anticipated, other ancillary efforts fared much better. Hosting, including VFT member visits and exchange student stays, denoted an area where the team members consistently impressed each other. Student experience gained the highest success rating among faculty, and hosting was the category under success I used to describe this complex task of providing shelter, education, friendship, and context for each student group and visiting VFT members.

Hosting efforts combined across sites to create goodwill between the VFT members. Carl Williams noted,

I think there were two things there. I think one would be the empathy factor with the students and the faculty from the other country wanting to be sure that we play great hosts and contributed to what we would hope would be a view of a different culture and the people of the different culture.

Therefore site leaders welcomed visiting team members recognizing the value of each other’s time with warm hosting events, as well as through continuous hosting and
caretaking of their exchange students. According to Leão, this laid a framework for a relationship that opened the door for discussions of good things as well as problem areas. Visits between campuses were very limited events, but U.S. members tended to stay longer at the Brazilian sites. In particular, Gabriel, Costa, and I spent extended periods abroad. Benton also traveled as often as he could to Muricema and Campos. Benton and Gabriel noted that their understanding of another culture had been greatly increased through the project and noted this as a success marker (see Table 5.1). In discussions with Gabriel about project benefits and costs, he mentioned “Herrnstein’s Model” as a tool I should consider in understanding partners’ actions within the project. Gabriel noted that despite the small financial size of the grant, his department was “committed” to the project because of its other benefits – connections with students, Brazilian travel, and cross-cultural collaboration. Both U.S. and Brazilian team members cited student experience as a strong marker for success. In particular, Cadu felt the increase in English language fluency among the Brazilian students greatly increased their ability to find desirable future employment.

In summary, Gabriel was the only participant unreservedly to declare the project a success. Others combined pauses, small laughs, and other brief delays to consider the question. Each person, using various stories and explanations of the problems overcome and results achieved during the project, mentally constructed rational success markers for themselves and the team. Perhaps in international teams using existing infrastructures across a number of universities and schools, managing to remain operational and consistently resolve problems is indeed success. Certainly the continuation of the partnerships, the submission of a new grant proposal, and expectations of new challenges
ahead caused the VFT members to find enough benefits to make their collaborative work ongoing.

Answers to Research Questions

This section looks specifically at the research questions and seeks to answer them directly and briefly. Although many of the questions were addressed either pointedly or obliquely in the previous sections, here they are distinctly asked and answered. Due to the naturalistic nature of qualitative ethnographic data collection, some questions remained unanswered; however, the following section will detail why these omissions may have occurred. Table 5.2 follows this discussion, condensing questions and answers for reader ease.

Question 1: How did the VFT collaboratively work together to complete the grant project?

Team connections were divided into bilateral partnerships: USS with UFC and EUR with WSU. The reasons for this division came about through the practicality of two-way documentation for student exchange, but also because Benton felt that bilateral partnerships would allow greater two-way connection than dispersed efforts between all four groups. Administering the U.S. budget, USS controlled many of the initial project decisions. Generally, as the grant collaboration began, each institution handled local issues, and partner institutions worked directly to determine course credit, classes, and housing for student exchanges. Thus collaboration occurred when issues needed to be coordinated between two or more institutions.

The VFT worked collaboratively via computer-mediated communication on project-wide issues often related to budget concerns, documents, and team member visits.
Bilateral partners also used computer-mediated communication and worked more closely together on student exchange issues and shared courses. Bilateral partners included more mixed face-to-face collaboration, depending on site.

*Question 1a: To what degree did they consider themselves a collaborative team?*

Meetings and discussions illustrated that all of the four partners consulted each other with major decisions or concerns. Whenever a problem arose, the group was quick to call for a video conference to discuss the elements involved and to seek advice on how these might be handled at the various institutions and in both countries. The bilateral partnership arrangement meant that on many occasions partners would deal directly with each other, possibly never consulting the other two institutions. Exceptions were translations, which normally went to Costa, although Gabriel, Jones, and Leão also read and spoke both English and Portuguese.

While this question was not directly asked of interviewees, the answer is based on observational data and comments made by partners at various times and in various contexts. Specifically, all of the members of the USS and UFN bilateral partnership mentioned their closeness and the lack of such a bond between WSU and UER members. Carl Williams’ final evaluation report noted, “There was a sense that the collaboration between UFN and USS worked better than UER and WSU.” Changes in partners and the resulting decrease in face-to-face time may have weakened the sense of collaborative partnership between UER and WSU.

The four institutions worked together to write a new grant proposal. That effort evidenced a collaborative team effort for the core group representing the four institutions. The initial brainstorming for the new grant occurred in Campos, where Benton, Gabriel,
and Cadu Oliveira discussed the discontinuity between preservice teaching students and their normal departmental work. All three agreed that their work showed more similarities in relation to business applications of educational work. During his interview, Benton lamented that the connection between WSU and UER “just never happened.” Yet following several days of meetings, meals, and social loafing, Benton admitted, “I think something’s finally beginning to happen between Gabriel and Cadu, now that the context is shared.” Recognition of costs and benefits along with the social and cultural stimulation may have pushed the VFT members forward. As Cervero (2001) notes, academic partnerships continue not because the parties recognize that collaboration is the right thing to do, but because each party receives what he or she believes is an adequate benefit for contributions given.

Virtual teams do not continue from sheer momentum; in fact, virtual teams in many business and educational contexts are temporary in nature. Yet for faculty, virtual team collaboration is a risky endeavor in the high stakes context of tenure and review. The VFT members who continued their association illustrate their willingness to continue the investment of valuable time and effort. Perhaps such ongoing virtual teams are more akin to a CoP which share and grow by association. By this continued action, Bruce Benton, Cadu Oliveira, Leão Bezerra, Ben Gabriel, and Rui Costa reaffirmed their feelings of empowered team membership. Each member noted incidents of inclusion, control, and acceptance (Schutz, 1966) that reinforced continued association. Conversely, the action of members moving off the team may suggest a lack of perceived benefits, inclusion, control, and acceptance. Those members leaving the team included Jones, Maria Oliveira, Moreno, and me.
Question 1b: How did they use technology tools to support collaborative work?

While this question was also not directly asked of participants, the answer was developed from artifacts and observations evidencing the use of technology. Communication technology was woven into the very fabric of the grant through its concept, implementation, and daily management work. That communication varied between various tools: video conferencing, email, listserv, chat clients, telephone, cell phone, Internet telephony, limited face-to-face meetings, and online collaboration spaces such as web pages, course wikis, and online classrooms.

The primary tools employed were video conferencing, email and listserv, and chat clients. Video conferences were held approximately once per month in the early planning stages and increased to almost one per week during the major exchange period. They were conducted for overall management and field course cooperation and were seen as critical for success by many of the partners. Chat clients, MSN Messenger, Yahoo Messenger, and iChat, also provided backup, immediate contact and translation technology in support of video conferences, as well as synchronous connections among selected members. Telephones provided an immediate link, but high cost and the need for scheduling due to time differentials reduced their usage among team members. Limited, but highly popular, face-to-face meetings provided intense periods for collaborative planning meetings and social reconnections, increasing trust and building a store of shared experiences.

Question 2: What were the components of success for an international VFT?

In reflecting on the project and participant feedback, components for success involved communication, planning and organization, member flexibility. As methods and
conditions varied between countries, international collaboration required patience and efforts to adjust for the differences between locations. Carl Williams stressed agility as an important measure of group success among the VFT, and I concur. Any international collaborative project depends heavily on the adaptability of members to use local knowledge to make changes while keeping project goals in sight (e.g., Burke, Pierce, & Salas, 2006). A willingness to see problems as a part of the process and solutions as jointly created and implemented contributes to a sense of inclusion and control (Schutz, 1966). This presupposes that goals, context, methods, and communication have been developed and agreed upon jointly prior to project start. Frequent communication punctuated by highly concentrated, highly successful interaction via video conferencing and face-to-face works to sustain relationships among team members. Shared social loafing (e.g., Ferris & Godar, 2006; Gibson & Cohen, 2003) provided an understanding of individual and local cultures.

The components included communication, organization, planning, and flexibility. Face-to-face time was critical in building relationships, allowing partners to be more flexible when problems arose. A system of communication structure provided a framework supporting all the necessary group tasks.

*Question 2a: How did they define success for the project as a group and individually, and did they differ?*

The VFT interviews provided a wealth of information about what the different team members valued and how each one saw success in the project. Generally, most members commented on the success of the project being linked to student success. In addition, most considered the development of relationships between the universities for
continued collaboration to be an indicator of project success. Neither Guy nor Lucia traveled abroad or commented on further collaboration between the four institutions.

Overall, each participant considered the project a success based on various ideas of team connections and student experience. As detailed in Table 5.1, each member listed one or more of the stated grant goals as markers of success including institutional cooperative agreements, a technology integration certificate, increase foreign language proficiency among students, local university-school partnerships, greater multicultural awareness in the curriculum, K-12 student apprenticeship opportunities at local public schools, and long-term relationships among students and host families and host faculty. In addition, individual team members added other indicators of success including student understanding of the difficulties related to international education and the use of technology within the curriculum, completion of the student exchange between the universities and their experiences while abroad, sustainability of the university partnerships, an increased understanding of another culture among both students and faculty, and the students’ ability to view their own culture from a new perspective.

*Question 2b: How did these definitions compare to the stated grant objectives?*

This question and several following questions are dealt with at length in the previous section on creating success. In general, the VFT members were familiar with the conceptual agenda of the grant but lacked specific remembrance of the stated goals. In fact, many of the goals were met prior to the major exchange. Documents created connections between the universities, ensuring their willingness to work together and to accept transfer credits. The project allowed a context for the group to work together and establish communication channels and friendships. Connections between universities and
local schools were solidified, even if student projects did not continue beyond their time abroad. The only goal that was not specifically met was the development of a certificate in technology integration with a multicultural perspective to be adopted by all institutions. This certificate required slow and continual efforts at USS, and other institutions were either not interested or joined too late in the cycle to attempt the certificate initiative. Benton considered passage of this certificate a real success.

Participants listed two to three of the original goals as actual success markers during their individual interviews. Moreover, 9 of the 10 members listed one or more additional goals achieved by the project. Yet the inability of the team to name the stated goals immediately may indicate a lack of clear communication and opportunities to reflect and renew shared goals. Lack of shared knowledge regarding project goals may lead to a sense of reduced productivity and satisfaction among members (e.g., Crown, 2007; Forrester et al., 2007; Hardin et al., 2007; Hoegl & Parboteeah, 2003). Thus, their inability to name goals without hesitation and the creation of new goals may indicate a lack of consensus among the team as a group.

**Question 2c: How was success for the project measured?**

As discussed earlier, most participants measured success in varying ways; there was no unified measurement system for success. The most common measure was student experience and learning via the courses and the authentic classroom experience. Rui Costa alone believed that the most important measure was the establishment of strong ties between local schools and the universities. Bruce Benton believed that the most important measure was the sustainability of the ties between the PIs at the four institutions. Carl Williams and I returned to the stated goals of the project and used those
as a measure of success. Using participant data from observations and interviews, most goals were acceptably met, with the exception of the certificate, which was not pursued by three of the four institutions. The evaluator’s final report was accepted as final confirmation of project success by team members.

Question 2d: How did they describe this success?

Participant interviews illuminated individual member ideas of success and compared rationales between participants. When asked about project success, Ben Gabriel (WSU) told a story of student collaboration and Internet connectivity. To Gabriel, student learning and connectivity in new environments represented a strong marker of success. Bruce Benton (USS) told a story of shared times among VFT members as a strong moment of personal connection and sense of success. Benton viewed this as evidence of the establishment of partnerships between universities, which indicated success at meeting the grant goals. Rui Costa told a story of conversations shared with local Brazilian teachers, and their shared regard and respect. To Costa, this willingness to share personal information and pause amid work demands presented a measure of strengthening the larger community – and therefore success. For all three, the unifying theme illustrated personal and professional connections equating to success in the project.

Research Questions Summary

Table 5.2 summarizes research question and answers into a condensed form. This brief format provides a quick scan of each question and its condensed answers.
Table 5.2

Research Questions and Condensed Answers

<table>
<thead>
<tr>
<th>Research Questions and Condensed Answers</th>
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<tbody>
<tr>
<td><strong>1. How did the VFT collaboratively work together to complete the grant project?</strong></td>
</tr>
<tr>
<td><strong>Answer:</strong></td>
</tr>
<tr>
<td><strong>1a. To what degree did they consider themselves a collaborative team?</strong></td>
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<td><strong>Answer:</strong></td>
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<td><strong>1b. How did they use technology tools to support collaborative work?</strong></td>
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<tr>
<td><strong>Answer:</strong></td>
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<tr>
<td><strong>Question 2: What were the components of success for an international VFT?</strong></td>
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<tr>
<td><strong>Answer:</strong></td>
</tr>
<tr>
<td><strong>2a. How did they define success for the project as a group and individually, and did they differ? (*) indicates additional markers provided during interviews)</strong></td>
</tr>
<tr>
<td><strong>Answer:</strong></td>
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</table>
2b. How did these definitions compare to the stated grant objectives?

Answer:

- Participants listed two to three of the original goals as success markers.
- See first six items in answer 2a.

2c. How was success for the project measured?

Answer:

- No unified measurement system for success.
- Individualized: participants measured success in varying ways.
- Common measure: student experience and learning.
- Costa: establishment of ties between schools and universities.
- Benton: sustainability between four institutions.
- Williams and McClendon: stated grant goals
- Evaluator’s final report accepted as final measure of success.

2d. How did they describe this success?

Answer:

- Individualized: participants described success in varying ways.
- Gabriel: student collaboration and Internet connectivity.
- Benton: personal connection to partners and universities.
- Costa: conversations and university connections with local teachers/schools.
- Unifying theme: personal and professional connections.

Summary

This section discussed the major themes of “communication tools and methods” and “creating success.” ICT technologies facilitated communication, although at times technology also resulted in barriers in project management communication. In addition, information silos and fragmentation sometimes resulted from differing approaches to various field courses, technology problems, and technology workflow choices made by VFT members. Grant goals evolved during daily implementation; this change in participant goal perspectives was evidenced in interview comments and other participant communications. The act of hosting other VFT members and exchange students was a notable success, although not an originally stated goal, and became a method of demonstrating goodwill among the VFT members. In considering power concerns among the group, some members noted feelings of frustration and a lack of inclusion and control, perhaps resulting from having a position as a graduate student or because of the use of English as the primary team language. In reflecting on the benefits and costs of
participation in the Emerging World Perspectives grant, all of the participants found reason for concluding the project was successful, even if some areas became labor intensive or costly.

The research questions directly addressed in this section have provided the reader with an overview of the research agenda as resolved by the data collected in this study. Table 5.2 illustrates a linear approach to research questions and answers. Some questions not directly addressed by participants in their interviews were answered based on actions and comments in other contexts. In particular, the primary questions dealt with collaborative work, communication tools, and group construction of project success. In general, group tasks were divided up between bilateral partners when appropriate or discussed jointly when affecting all four institutions. Video conferencing was accepted as a necessary shared space and time for maintaining communication lines between campuses. Partners self-selected chat tools based on computing platform, thus fragmenting the group between PC and Mac users. Email was the most frequently used asynchronous communication tool used by all group members. Though individual opinions on success varied, no participant found the project to be unsuccessful. Success was an evolving concept, and Table 5.1 provides a visual overview of individuals’ unique opinions on particular elements of the project, which were strong markers for indicating success. Most partners agreed that student experiences and learning were highly successful. In the hope of sustaining their teamwork, the VFT members continued to seek additional funding. This overt behavior provided strong evidence that each remaining member viewed the EWP grant as beneficial and successful.
Conclusions, Implications, and Recommendations

This final section presents the conclusions and implications for practice resulting from the study for future virtual team efforts and grant work. Last, I present ideas on how this research may be furthered or extended into areas related to this topic.

Conclusions

The evidence supporting the following conclusions can be located in the data analysis as presented in Chapter IV (Results). In each section below, I provide each conclusion and briefly recap relevant evidence.

1. Inherent in the virtual faculty team organization was the separation of its members by distance and time. The American team members were located in the south and the west of the U.S. The Brazilian members were located in the north and the south of Brazil. The response of the team to that separation was the use of communication tools and brief face-to-face meetings to complete its collaborative project. This was evidenced by the use of a multitude of tools, including video conferencing, chat and VOIP, email, face-to-face communication, telephone, and electronic collaboration spaces.

2. Video conferencing allowed both work and social communication in a media-rich, synchronous format. Video conferencing was the communication tool preferred by team members, although connectivity was problematic at times. Preference for video conferencing as a meeting tool was noted by several members in interviews and other comments. In addition, Carl, the project evaluator, noted his surprise about the critical role that video conferencing played in cementing the relationships and helping to promote flexibility among the team regarding problems that arose.
3. Many grant goals were generally recalled by all of the team members, despite differing dates each joined the VFT. Newer team members mentioned a lack of knowledge of stated grant goals, but apparently gleaned the project purpose from discussions and course-related activities and events. This was evidenced by interview transcripts.

4. Bilateral partnerships, though reducing student exchange concerns, reduced collaboration and uniformity in field courses and contributed to information silos. In particular, academic and local K-12 school calendars caused delays and difficulties in aligning field courses between the four locations. Interview transcripts, meetings, agendas, and email data support this conclusion.

5. The use of various chat applet platforms reduced the continuity of synchronous communication available team-wide. The WSU partners used iChat exclusively during the major exchange period. Benton and Costa also had access to Mac computers and sometimes connected with WSU team members. Other members of the VFT did not have access to iChat via their PC-based computer platforms. Data from interviews, emails, meetings, and observations support this.

6. Changes in university partners and leadership contributed to a lack of communication and trust building between UER and WSU. Time was required to rebuild relationships between the partners. Interview comments from Cadu Oliveira indicated a lack of affection, inclusion, and control regarding WSU team members. The lack of response from Gabriel regarding collaborative efforts with UER personnel may be an indication of similar sentiment.
7. Although problems were numerous, the team worked independently and collaboratively to find various problem solutions. The flexibility of the VFT contributed to project success. Observations provided a wealth of data supporting independent and collaborative decision-making in response to unanticipated events. Williams pointed out the flexibility of the VFT as a group success marker.

8. Nine of the 10 project faculty agreed that student learning and experience was an indicator of project success. Most of the team members concurred that the exchange students benefited more than the VFT itself. Many expected the second language fluency to increase student work potential and the period abroad to be a time of personal and independent growth for students.

9. The VFT exhibited elements of Lave and Wenger’s (1991) communities of practice and legitimate peripheral participation concepts to varying degrees among its participants. In particular, the team manifested problem solving, information seeking, shared experience, the reuse of assets, coordination, development discussions and debriefing, documentation of project artifacts, visits, and identification of gaps for future collaboration. While visiting their host countries, members’ willingness to provide hosting contributed to the team’s sense of inclusion (e.g., Schutz, 1966), and stories of shared experience were a marker for success.

10. The continuation of the VFT continued beyond original project parameters challenges the business model of “global virtual teams” (Figure 2.3). In that model, Jarvenpaa and Leidner (1998) characterized GVTs as event related and temporary in nature. In this study, the growth of inter-team relationships was cited by most participants as an indicator of success. The idea of group continuity is supported by Andriessen and
Verberg (2004), who agree that virtual teams may have permanency. In addition, Saunders and Ahuja (2006) assert that “many distributed teams are ongoing rather than temporary” (p. 663). Perhaps definitions of virtual teams will continue to evolve as their use is expanded to ever greater contexts. Certainly, faculty gain the opportunity for collaboration and extended learning by making use of ICTs within the classroom, in their research, and in other areas of scholarly work.

Implications for Practice

The results of this study inform research on virtual teams, grant teams, and virtual faculty teams, specifically. Teamwork practice depends on the contributions of all team members. The ability of members to contribute relies on the ability of the team to communicate with ease. Given that faculty are busy professionals, communication must match or fold into existing workflow contexts. This section provides recommendations for practice in blended and virtual teams of various kinds, in connecting across space, time, and culture. Specifically, this discussion should inform faculty who are forming virtual teams, who operate as respected peers in their various fields, and who may create teams anticipating continued work over time. The findings supported much of the literature on related topics, including collaborative work (Harasim, Hiltz, Teles, & Turoff, 1995), the use of mindtools for critical thinking in learning, work, and problem solving (Jonassen, 1999; Jonassen & Reeves,1996), and communities of practice (Lave & Wenger, 1998b), among others.

Recommendations from this study encompass the process of connections as well as the dynamics of team membership and power among faculty members. They include developing or adopting shared communication platforms, being more aware of language
and cultural differences, preparing for membership fluidity, remaining mindful of individual costs and benefits, and planning for success.

**Communication Platforms**

The use of a single synchronous tool may reduce information transferal problems and minimize the isolated storage of information resulting in knowledge silos at various team sites. Participants in this study used various chat applets. The lack of a single synchronous communication tool created a communication barrier and, on occasion, information silos. In the absence of a single synchronous chat platform, teams may use applications such as Trillian, Meebo or Adium which effectively combine to support more independent chat protocols such as MSN Messenger, Yahoo Messenger, and so on.

**Awareness of Language and Customs**

Remain aware of language and cultural differences. In this study, one participant who was perceived as being fluent mentioned a preference for text chat because typing increased his language comprehension in English. The VFT went to great lengths to respect and honor language and culture, yet some members continued to labor to understand group discussions.

**Prepare for Membership Fluidity**

Provide background data to new or late arriving members. Late arriving participants in this study noted a preference for greater information early in their induction to increase project understanding and perhaps improve performance.

**Cost/Benefit and Power Currency Mindfulness**

Remain mindful of competing agendas. Faculty are busy professionals with many responsibilities. The energy and goodwill of the team may be better preserved by
maintaining a mindfulness towards individual costs and benefits and an awareness of the power currencies inherent to academia. Such mindfulness may contribute to the longevity of teams expecting permanency or continuity from their investment. This study used Schutz’s (1966) concepts of inclusion, control, and affection as one way of understanding the feelings of connectedness among team members. The benefits to faculty collaboration include increased productivity and creativity, renewed motivation, a willingness to take risks, a maximization of limited time and resources, and the potential for improvements in teaching and learning (e.g., Austin & Baldwin, 1991). The investment in developing shared knowledge, skills, and understanding has the potential for exponentially increased professional benefits for faculty willing to reach into the virtual realm.

*Planning for Success*

Planning for success includes consideration of workflow commonalities, such as a shared communication mode (as mentioned above), shared or aligned institutional calendars, and an understanding of individual work preferences, such as computer platforms. Project goals should be revisited periodically. A rubric for project success may assist the team in tracking progress and measuring success in reflection. This would also allow for periodic adjustments and tracking of critical changes during the course of the project. This rubric and tracking may also provide increased access for late arriving members to understand critical junctures in the team history.

In summary, the findings of this study provide faculty with a broad range of events and recollections on which to plan future team collaboration. Beyond the criticality of communication tools, the positive attitudes of the team towards each other were increased with face-to-face time and increased knowledge and understanding of the
conditions at each location. Flexibility was a strong marker for success. Creating a framework and a shared concept of success and periodic re-envisioning of goals may increase satisfaction and sustainability for future virtual faculty team efforts.

Recommendations for Further Research

Generalizability must be determined by the reader by weighing the similarities between potential application scenarios and the context of this study. The limitations of this study should be noted by the reader when generalizing conditions and findings in this study to other applications. Limitations included unbalanced access of the researcher to each site due to distance, limited communication with distant sites and team members, and limited ability in the Portuguese language.

Work team and team research among student populations and business professionals provided a rich background of literature as a foundation for this study. However, as the expansion of the Internet and ICT tools increases collaboration opportunities, virtual teams will continue to evolve as well. This case study involved faculty collaboration in various mixed online formats with a complex project, a large number of team members, multiple classes and students. Faculty may consider using the lessons learned in this endeavor to foster international and multicultural connections without the demands and risks of international travel. Svinicki (1996) notes that busy faculty are even more inclined to stay away from high-risk projects than are their students until the benefits of the risk and cost are understood. Yet Austin and Baldwin (1991) encourage faculty to risk collaboration on all professional levels.

For those considering research among faculty, there are many power concerns among academics that should be considered. Moving out of comfort zones and into the
virtual world is a singular challenge in and of itself. Collaborating with others across time, space, and cultures presents possibilities for power currencies to be at play. The student may always wield less power than the teacher – perhaps rightly so; yet, in the context of researcher and researched, the roles then become confounded by these power issues. Research among faculty about faculty represents a gap in the literature, as faculty frequently research and advocate action for others, but not for themselves (Forcey & Rainforth, 1998). As faculty and researchers, we owe our fields and our students our willingness to participate and fully collaborate as team members – away from our lonely towers of ivory. Embracing collaboration through the virtual world presents great opportunities for extending multiculturalism inside our classrooms and across the curriculum.

This study contained both complexities and many variables during an international exchange context. My agenda for extending this area of research includes studying additional virtual faculty teams in various contexts. Perhaps reducing the complexities of future studies or projects, such as subtracting the student exchange element, may increase project success and participant satisfaction. So my original question continues: How do virtual faculty teams collaboratively work together to create project success? As each case is varied, and because technologies will continue to evolve, I anticipate many new possibilities for study. Other questions include the following:

- What factors indicate permanency among virtual faculty teams?
- How can busy faculty best incorporate virtual collaboration into existing workflows?
• How do improved technologies increase the sense of face-to-face experience, allowing inclusion, control, and affection in virtual faculty team dynamics?

• What characteristics might best describe faculty who seek this kind of innovation and renewal?

Summary

Table 5.1 suggests an individualized perception of group goals in this complex grant project. Yet despite its significant barriers and problems, each team member felt success had been achieved in several ways – many of those directly relating to the original stated goals. In the face of barriers, faculty connections to each other and commitment to their students persevered. In fact, the VFT continued even beyond project completion. The faculty found adequate benefits for continuing their work, despite their existing workloads and frequently arising implementation problems.

Faculty operate in a high-stakes, career-driven environment where they must consider and weigh the importance of completing daily tasks with the potential for new endeavors. Research, teaching, and learning continue, although at times, the university itself may operate as a knowledge silo, effectively walling off its rich information, talented faculty and energetic students. The computers, the Internet, and related communication tools represent a ubiquitous part of our work environment. Faculty have the potential to unlock educational and multicultural advantages through collaborative virtual partnerships. Our challenge is to open the doors of our offices and our classrooms to construct the education of tomorrow.
REFERENCES


McClendon, V. J. (2004). Virtual faculty teams: Faculty connecting across the educational divide. Unpublished manuscript.


## APPENDIX A: GLOSSARY OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>CAQDAS</td>
<td>Computer Assisted Qualitative Data Analysis Software</td>
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<td>CMC</td>
<td>Computer mediated communication</td>
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<td>CMS</td>
<td>(online) class management systems</td>
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<tr>
<td>CoP</td>
<td>Community (ies) of Practice</td>
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<tr>
<td>EWP</td>
<td>Emerging World Perspectives</td>
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<tr>
<td><strong>FIPSE-CAPES</strong></td>
<td>-FIPSE – Fund for the Improvement of Post Secondary Education a division of the U. S. Department of Education (DOE) -Centro de aperfeiçoamento de pessoal de nível superior in Brazil (CAPES)</td>
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<tr>
<td>FIRO</td>
<td>Fundamental Interpersonal Relations Orientation (Schutz, 1958 &amp; 1966)</td>
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<td>GVT</td>
<td>Global Virtual Teams</td>
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<td>ICT</td>
<td>Internet Communication Technology (ies)</td>
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<tr>
<td>MSN</td>
<td>The Microsoft Network - Microsoft’s entire family of Web services and programs</td>
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<tr>
<td>PC</td>
<td>Personal computers – a reference to computers using Microsoft Windows operating systems</td>
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<tr>
<td>PDA</td>
<td>Personal Digital Assistant</td>
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<tr>
<td>PI</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>UER</td>
<td>Universidade Estadual Rosario (Campos, BR)</td>
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<tr>
<td>UFN</td>
<td>Universidade Federal do Norte (Muricema, BR)</td>
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<tr>
<td>USS</td>
<td>University of Southern State (Oakley, US)</td>
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<tr>
<td>VFT</td>
<td>Virtual Faculty Team</td>
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<tr>
<td>VOIP</td>
<td>Voice over Internet Protocol</td>
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<td>WSU</td>
<td>WSU – West State University (Ephraim, US)</td>
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APPENDIX B: GRANT OVERVIEW

MARCH 28, 2003

OVERVIEW OF THE PROJECT

The United States is known as a melting pot of cultures. An increasing number of nationalities compose our cultural milieu, and K-12 schools are at the center of this movement. Children are continuously faced with cultural norms and customs other than their own, even in rural and isolated regions of the country. How can we help our children thrive and benefit from this diversity? The teachers of tomorrow, current undergraduate education majors, are generally ill-prepared to assimilate the increasing diversity in today’s classroom. Most pre-service programs only offer, and rarely require, a single multicultural education course of their students. One course is not adequate to address the depth and breadth of the cultural challenges teachers face.

The face of education has changed worldwide. Of the many developments in education, two of the most vital forces are those of emerging educational technologies and the presence of multiple cultures, nationalities, races, and ethnicities in the classroom. As technology breaks the boundaries of the classroom, reaching out to different states and countries, the school will become increasingly heterogeneous. Education majors, the teachers of tomorrow, must embrace technology and diversity as forces that have the power to shift the paradigm of education. Technology and diversity are cyclical currents. As technology increases outreach through distance education and collaboration, the school will encompass a more varied population of students. An increasingly diverse student base then requires the sensible use of technologies.

**Project Goals**

**Goal 1:** Establish a framework for cooperation between the four institutions, including a forming a cooperative agreement detailing student and faculty exchange.

**Goal 2:** Obtain approval for a certificate on technology integration with a multicultural perspective that will be adopted by all institutions. Courses that comprise the certificate will benefit from distance learning technologies and will be jointly developed by faculty and students in all four institutions.

**Goal 3:** Motivate students to obtain a level of proficiency in a widely spoken foreign language while experiencing cultural immersion through courses and field experience.

**Goal 4:** Implement a curriculum that focuses on cross-cultural collaboration in the classroom using distance education, building on the strengths and know-how of the participating institutions.

**Goal 5:** Foster in-country partnerships within the US and Brazil.

**Goal 6:** Involve faculty and education students in the analysis, design, development, and implementation of the curriculum having direct application within their fields of interest.

**Goal 7:** Create apprenticeship opportunities for exchange students to promote the collaboration between education students and local K-12 practitioners in field implementation of technology in the classroom.

**Goal 8:** Promote long-term relationships between exchange students and practitioners in the host country, and within countries.
Expected Outcomes

The outcomes of this project are expected to have an immediate and direct impact on K-12 education in local communities in US and Brazil as a result of apprenticeships with practicing teachers. Moreover, participating students will emerge from the program with a heightened appreciation of other cultures, languages, and people. This they will bring home to the classes they teach and future preservice teachers they mentor. We expect that this multicultural exchange will provide a foundation to build future collaboration between K-12 schools in Brazil and US.

This project model will serve as a template for collaboration and exchange of faculty and students between many countries. The language and cultural components of the curriculum are meant to be flexible and adaptable to countries other than Brazil and the US. We foresee establishing partnerships between the US and other developing countries such as Mexico.
APPENDIX C: PROJECT COURSES

1) Multicultural Technology Integration Seminar – Students from different countries will meet through an online forum using synchronous or asynchronous technologies to share and reflect on their experiences on technology integration around the world. This course will be taught collaboratively by a number of guest instructors from universities around the world, who will bring global comparative perspectives to the classroom. Students will be required to compose an essay on a topic related to their experiences in the classroom, including: multicultural education, technology integration, comparative education, etc. These essays will then be compiled into an online book, which will be used as a text for future iterations of the courses that comprise the certificate. Students will have opportunities to collaborate in modifying or appending previous book chapters.

2) Design and Development Tools - Students will learn a variety of tools appropriate for computer-based development. These include graphics, media, and software development tools. Students will be required to write a contract for the specific tools and curriculum materials they choose to learn. Students will work independently learning computer-based tools. In addition, scheduled class time will allow students to self-select workshops, collaborate with peers, and with assistance from instructors. This class will employ a mixture of structured learning and independent learning experiences at the discretion of the student. Ultimate performance in the class will be evaluated using a rubric that focuses on the major application project that students construct independently.

3) Field-Based Theory and Practice of Technology Integration – Students in this class will analyze issues in technology integration in the K-12 environment. Specifically, students will perform needs analyses, design and develop curriculum materials and lesson plans based on these needs, and learn to evaluate their own work as well as providing peer feedback to others. This course will require students to partner with practicing K-12 teachers as apprentices, following a service-learning format. This partnership will develop technology solutions to challenges in adapting to diversity, learning styles, bridging the digital divide, and other relevant issues. Inherent in this course is the intent to develop lasting solutions and strategies that will have immediate as well as long term pedagogical impacts on teaching practice.
APPENDIX D: INTERVIEW PROTOCOL

1. Please discuss the written grant goals as you recall them.
2. How did these align with your personal goals for the project?
3. Can you tell me about your collaboration with others in the project?
4. Describe problems, challenges, or concerns that you have for team collaboration.
5. Can you recall an event when something went particularly well for the project?
6. Can you recall an event when something went particularly badly for the project?
7. Tell me about your use of communication tools and technology?
8. How important were these tools to team collaboration?
9. Can you tell me about any aspects of the collaborative process you particularly liked or did not like?
10. What do you know about how things were progressing at other sites?
11. Can you tell me of any stories you may have heard about team members helping each other or the exchange students?
12. Discuss differences between team member and personal teaching or work methods?
13. Please discuss how you see this collaboration continuing to benefit you and your career.
14. Complete this stem for me: To me, success in the project is/would be: 

__________________.
15. Tell me about any benefits resulting from the project which may come to you, your students or your institution.
16. Do you have other comments or anything else you would like to tell me?
APPENDIX E: STORY OF THE GRANT

Appendix E presents the story of the *Emerging World Perspectives* (EWP) grant as constructed by its writing team, evolving organizational structure, and its paired institutions. Brief supporting data items are used to provide texture and context to the evolution of the grant and its organization. The grant initialized with the authors’ original conceptualization, but ultimately the grant evolved to include partnership changes, and the effect of paired institutions on the nature of the four university partnership. Table E.1 also provides a graphical display of the changing partner relationships over the period of the four year project.

Because of the number of participants and the movement of those participants between locations, it is important that the reader understands which VFT members were at various locations and their relationships to one another. Table E.3 provides a visual representation of participants and institutional affiliations. To provide a clear roadmap to the VFT, chapter IV concludes with a detailed description of locations and participants.

Grant Organization

This section begins with a brief discussion of the early writing stages of the EWP grant and its writers. Secondly it focuses on critical changes in American partners. And lastly, it provides an overview of the bilateral partnerships between paired institutions creating the framework for much of the communication and decision making which occurred during the major exchange period in 2005.

The Writers

The *Emerging World Perspectives* (EWP) grant was conceived and developed by three grant writers located at USS: Costa, Benton, and me. Initially in 2002, Rui Costa
received the request for proposal (RFP) from FIPSE-CAPES via a colleague’s email. In drafting ideas to propose to Benton, Costa and I carefully analyzed the requirements of the RFP and several proposals which had previously been funded. This initial plan was presented to Benton the following week. Our collaboration allowed the three of us to create a workable plan for the international exchange and multicultural education courses. The basic plan involved exchanging preservice teachers from two U.S. universities and two Brazilian universities for the period of one semester. The semester focused on courses taught jointly online and revolving around authentic field projects assisting host K-12 teachers. Together the student-teacher and host teacher would work to find useful ways to solve existing problems involving technology integration. Technology would be broadly defined as any concept of idea assisting teaching and learning. In addition, student-teachers would work to pair their field classroom with another classroom in the opposite country. This allowed teachers and children to develop international contacts to be used after the student-teacher exchange was complete.

Having only three months to write the proposal, find partners, and gain university support, the grant submission process was challenging. Research within USS required an understanding of its institutional constraints and potential problems. Costa, Benton and I held meetings with existing FIPSE-CAPES grant holders at USS, the departments of teacher education and romance languages, as well as the USS grants office and the office of international education to gather needed information.

The short developmental timeline had implications for partner selections and the proposal writing process. Partners were sought among the three grant writers’ existing connections. In Brazil, UFN previously hosted a USS faculty member and in return, USS
had hosted a UFN graduate intern. When queried, UFN contacts provided connections with UER personnel as potential partners.

Locating a second American university represented the primary hurdle in establishing the RFP partnership requirements. Initially, the three universities approached showed interest in the project, but one by one, each determined language concerns and workload issues precluded its involvement. In the last week before submission, Midwest State University accepted the proposal for the position as the second American partner. Last minute changes were furiously made to the grant proposals, in both English and Portuguese, and submission was finalized only hours before the deadline.

The final proposal contained information provided by each partner institution covering personnel and institutional profiles and individual strengths in support of the proposed project. Because we three grant writers were located at USS and the development window was so short, the other VFT members, UFN, UER, and MSU, remained less familiar with the proposal specifics. For the Portuguese version, Rui Costa provided all the translation for the CAPES side of the submission.

Table E.1

<table>
<thead>
<tr>
<th>Grant Funding Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITY</td>
</tr>
</tbody>
</table>
Change in Partners

As the funding agencies, FIPSE-CAPES required partnerships among four institutions, two U.S. and two Brazilian. As mentioned above, locating a second North American institution was a difficult task. Before the application process began, the writers approached three U.S. universities as potential partners. Ultimately, Midwest State University joined the grant application. With funding granted, all four institutions met in Miami for a kick off meeting with other FIPSE-CAPES grant recipients in 2003. Benton recounted, “So we finally settled on the Midwest State University, we had Barbara with us in Miami and it was great! I mean everybody really got along, everybody jelled and it was fantastic and then she was notified that she did not get tenure.” Cadu Oliveira (UER) and Barbara (MSU) established a genuine friendship during that week long conference. No one was more distressed at the loss of the Midwest partnership than Cadu Oliveira (UER). In fact, he recalled one of his fondest memories of the collaboration as “the first meeting at Miami, where we outlined the operational plan.” With Midwest lost, Oliveira was confused and considered the change in partnership a “deception.” To allow for continued funding, a replacement partner was required.
As the writers, Costa, Benton, and I began the search for a new U.S. partner. This required several weeks, calling and emailing other Educational Technology and Instructional Technology departments. As each interested institution arose, documentation and telephone conferences allowed for the joint exploration of the partnership potential. Weeks passed and no new partner surfaced. Most institutions lacked Portuguese language courses, thus representing a major barrier to project success. WSU

Benton visited West State University when discussion of the grant came up in casual conversation. Pete Clarke of WSU was eager to join the USS project since his 2001 FIPSE-CAPES grant proposal was unable to secure funding due to lacking partnerships. Thus WSU became the final U.S. partner in 2003 ensuring continued funding. It was over one year later, in 2004, when Cadu Oliveira, UER, was able to meet Pete Clarke, WSU, face-to-face at the next annual FIPSE-CAPES conference held in Florianopolis, Brazil. Figure E.1 provides a partnership timeline and Table E.2 below illustrates leadership changes from 2003 to 2007.

Figure E.1. Bilateral Partnership Timeline.
Further complicating the new and tenuous UER and WSU relationship, Pete Clarke of WSU took sabbatical and was replaced by Ben Gabriel prior to the major exchange in June of 2005. These personnel changes required reestablishment of communication channels between all the institutions, but particularly between WSU and UER as paired institutions. Essentially new personnel had to be incorporated into existing patterns, discussions, and shared project history. According to Benton, the UER-WSU bilateral partnership “just didn’t happen.” Benton explained, “We changed university, changed to another university, changed to another university, and then changed the PI at that university and with all those changes it just …well, if partnership is about time, there wasn’t enough time to develop those partnerships.” Below, table E.2 visually displays the partnership and contact changes over the four years of the grant.
### Table E.2

**Leadership Changes**

<table>
<thead>
<tr>
<th>Paired Institutions</th>
<th>Principal Investigator or Lead Contact</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Southern State</td>
<td>Bruce Benton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universidade Federal do Norte</td>
<td>Luiz Leonardo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tadeu Carneiro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leão Bezerra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwest State* University</td>
<td>Barbara Elton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Universidade Estadual Rosario</td>
<td>Cadu Oliveira</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Institution change (IC)</td>
</tr>
<tr>
<td>Universidade Estadual Rosario</td>
<td>Cadu Oliveira</td>
<td>IC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maria Oliveira</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West State* University</td>
<td>Pete Clarke</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sabbatical</td>
</tr>
<tr>
<td></td>
<td>Ben Gabriel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Institution change (IC) occurred: WSU replaced MSU beginning in year 2 of the four year grant.

**Paired Institutions**

To meet FIPSE-CAPES funding regulations, articulation agreements were created between all four institutions. However, as the core writing team, Benton, Costa, and I realized that one-to-one partnered or paired institutions could reduce the exchange complexity, allowing each institution to focus on just one other location. As a result, we made a unilateral decision to partner USS with UFN and WSU with UER in 2003/2004 as a part of the university agreements (see table E.2 and figure E.1 for timelines). Benton recalled,
So…..we did it the way we said were going to do it which was a bilateral partnership…University of Southern State would partner with the Universidade Federal do Norte and West State University would partner with the Universidade Estadual Rosario, that these would be two partnerships…I’ve tried from the get-go to focus on a bi-lateral partnership because I knew it was about spending time…it’s about personal relationships.

While bilateral partnerships did simplify paperwork and planning, the implications of such partnerships did not occur to us until later during the major exchange. The bilateral partnership choice resulted in a bifurcation of communication. In other words, University of Southern State communicated more readily with Universidade Federal do Norte and West State University communicated more consistently with Universidade Estadual Rosario. This bifurcation in communication was not expected.

While in Oakley, Costa, Benton and I used instant messaging as a daily productivity tool and continued to do so during travels to Brazil. In addition, Costa and I shared writing and research projects with Dr. Benton of USS as well as Dr. Bezerra of UFN during the grant years. Ben Gabriel and Guy Jones, his assistant, worked closely together in Ephraim, and continued to communicate regularly when Ben traveled to Campos during the major exchange with the use of email and Apple iChat.

EWP Major Events: In Brief

During the grant, several defining moments punctuated the course of the project. As discussed earlier, some of these defining moments included:

- writing of the grant;
- locating a U.S. partner;
- securing funding;
- the kick-off partner meeting in Miami;
• the bilateral partner decision;
• loss of Midwest State University;
• the search for a replacement partner;
• and the addition of Western State University.

The addition of WSU secured continued project funding once again. Additional events not discussed previously included a minor student exchange in the fall of 2004, involving a one semester visit of:

• Costa traveled to Campos;
• Jo traveled to Muricema; and
• USS and WSU each received one Brazilian exchange student.

This minor exchange period allowed the Brazilians to test-drive the American university arrangements, as well as to allow Costa and me to make preparations at the two Brazilian locations for the U.S. students. Figure 1.1 provides a general location for each of the four institutions.

Both Costa and I returned to USS and began student recruitment and conducted training sessions with those chosen. These training sessions helped to foster a bond between the students before leaving for Brazil, and included visa application processes, cultural and practical issues, personal safety, language practice sessions, and other day-to-day practical considerations in order to prepare students for the realities of living in northern Brazil. We also raised money, which was later donated to a Muricema field school for a new computer lab. As a group, we also canvassed the campus for donations of clothing, tinned and dry food and other household items to help the UFN students transition to their apartments upon arrival.
Costa moved to Muricema in May of 2005 and I departed until June of that year. The USS students also arrived in Muricema in June, and began two months of language and cultural training as they settled into their host homes. During this period, one USS student failed to transition well, and arguments with her host family erupted. At a time when Costa and I hoped to build our online classes, beginning our own dissertation data collections, and setting up hardware and software at UFN, we instead spent hours daily assisting, counseling, and finally arranging for the student’s return to the U.S. in time for fall classes to begin.

Notably, UER and WSU did not exchange students until August 2005 and neither UER nor WSU created a process for assisting students with the necessary cultural transitions. Both UER and WSU selected exchange students with greater English/Portuguese language skills than either USS or UFN and felt no need for language and cultural training. As an added complication, USS and UFN began classes in mid-August and we assumed UER and WSU would join us at that time, particularly because we expected connected/coordinated classes for teaching purposes. Subsequently, we discovered the timetables for UER and WSU varied from USS and UFN, causing a lack of advance syllabi, lack of a shared class time for field courses, delayed start of classes, and delayed student field course projects. At a critical moment for both the multicultural course and the field courses, these factors resulted in a lack of overall coordination between the four sites, which I will explain further later in this appendix.

The VFT worked intensively throughout August and September 2005 to coordinate efforts and partner student projects. By mid-September, many of the hardware, software and scheduling problems were resolved and students at WSU, USS, and UFN
settled into a productive pattern visiting schools and starting field projects. Student unrest at UER continued as a reoccurring problem until Gabriel arrived in late October, 2005. His arrival relieved Maria Oliviera of classroom teaching duties and shifted all field class activity to the local schools. Respected by the WSU students, Gabriel successfully quelled their concerns and field projects developed rapidly under his supervision.

In mid-November, 2005, Dr. Tadeu Carneiro, UFN, attended the annual FIPSE-CAPES meeting with Dr. Bruce Benton in Washington, D.C. After some travels in the U.S., including USS in Oakley, Tadeu returned to Muricema and Benton traveled to Campos. Their return to Brazil marked a closing juncture for the major exchange, the completion of planning for a final minor spring student exchange and the beginning of consideration regarding the future of the partnerships between the four institutions. Face-to-face meetings, accompanied by food and relaxation, supported periodic intense periods of work and planning. For sustainability or continuation of the partnerships, Benton’s spearheading these planning sessions was pivotal. Prior to those meetings, the VFT never discussed continued collaboration. Benton, and perhaps others, questioned the viability of their continued partnership because of the differences discovered during the EWP project. It was during these crucial meetings that I conducted participant interviews, first in Campos and later in Muricema during the last weeks of November and first week of December, 2005.

In summary, the conceptualization and writing of the grant was primarily at USS with assistance on localized details and personnel at each of the other three partner institutions. After the loss of an early partner, WSU stepped in and allowed continued funding to be secured. A minor exchange of one student per institution occurred in the
fall of 2004 setting the stage for the major exchange in the summer and fall of 2005. USS and UFN began the exchange early in May and June of 2005 including cultural and language training for students. WSU and UER exchanged students with great language skills in August, 2005. When classes were set to begin at USS and UFN, the VFT discovered inconsistent academic and k-12 school calendars which hampered course coordination and ultimately set the stage for separate field courses with minimal collaboration. Greater discussion of these events and thematic analysis of data are discussed later in Appendix E.

Participant and Location Descriptions

This section begins with a brief description of a) the site locations and b) the virtual faculty team members. My goal was to provide some context allowing the reader to enter into the complex maze of our project goals, management work, and teaching collaboration in creating success in the EWP grant. I collected the data during the major exchange period of June to December, 2005. Participants are grouped by institution preceded with an overview as a lens on the city as a cultural context for both the university and its faculty team members. Overviews include description of (a) location, (b) mobility, and (c) technology. Member descriptions were developed from demographic surveys which were returned by all the participants except one university leader, the evaluator who was not surveyed, and me. Other supporting data used to construct these participant summaries included observations, emails, and in one case, a publicly available professional vita which replaced the unreturned demographic survey.
The University of Southern State was located in the genteel southern town of Oakley, a city of approximately 110,000. It was well known for many things including its historic broad main avenue filled with coffee shops, bars and restaurants; crowded football weekends with bumper to bumper traffic; a thriving music scene of street performers and famous bands; and lastly, its thousands of students and university professionals. The university and city were intertwined as the university was centrally located directly on the main street and the city grew up around its borders.

As in much of the southern U.S., there are four seasons which are delineated by weather changes throughout the year. Spring is often windy and wet; summer is humid and hot, drying out in the later months of August and September; fall and winter are wet with rare periods of snow or ice. As an inland temperate city, Oakley was heavily forested and networked with a series of rivers and lakes. Though only two hours from a major metropolitan area, the city was largely surrounded by farming which provided livestock and crops, locally and nationally.

The old southern city of Oakley had tidy brick houses, green lawns, and large azaleas. Away from the white-columned, historic homes and marble university halls, narrow lanes shift to the stark realities of poverty along side the more privileged literate population. Oakley had one of the highest poverty rates among similarly sized U.S. cities. Perhaps to mask this inequity, local public housing projects, dotted throughout the city, mirror its perfection with matching brick façades and flowering garden spaces. Notably, one such block was served by Oakley middle school where EWP student projects were carried out.
With street names like Sandy Shoals and Piney Creek, thoroughfares wound about the city like rivers themselves, changing names at intersections and switching back again around the next bend. Expensive new cars evidenced affluence among the local population. Mobility within each city was a critical factor in providing and supervising field experiences. At USS, students rode large, modern, air-conditioned university and city buses at no cost using their university IDs. Bus routes varied from 30 minutes to hourly and blanketed the campus and much of the city from 7 am to 7 pm Monday through Saturday. Field course supervisors used private cars to travel to field sites and the USS campus where video conferences, computing services and meetings occurred.

Setting a nationwide standard, the city of Oakley and University of Southern State combined efforts in one of the first downtown wireless clouds. Like the bus system, the college faculty, staff, and students accessed the free wireless cloud while sitting in park-like settings among the tall oaks and fountains. They often checked email, chatted on instant messengers, and attended online classes on laptop computers the open air.

Wireless areas, PC and Apple computer labs and video conferencing equipment were ubiquitous across both campus and city. On campus, computer labs were available within departments and student centers from 7 am until 2 am most days. And though some crime existed, freshmen were seen strolling through the streets on their way back to dormitories until the wee hours of the morning.

Participants at USS during data collection included Dr. Bruce Benton, PI, field teaching assistant Mrs. Lucia Moreno, a Master’s graduate student and volunteer for the project, and the project evaluator, Dr. Carl Williams. Though USS was home for Rui Costa and me, we lived in Muricema during the data collection period.
Dr. Bruce Benton PI, Field Course Advisor

Dr. Bruce Benton was an associate professor with seventeen years in a technology related department in the college of education at USS. A tall affable man with a ready smile and loud voice in his late 40’s, Bruce’s background was in background in curriculum and instruction, and he had taught fourteen classes solo via various Internet technologies and team-taught fifteen others. In addition, he had taught more than 20 other classes aided by online tools and content. However, Bruce had never taken an online course as a student. A majority of his work centered on instructional design and development (IDD), teacher education, and technology integration. Although he described his role in the grant courses as “peripheral”, he believed his long term relationship with the Oakley Middle School played a key role in gaining entrée there for the student field experiences and projects.

Dr. Benton ubiquitously used technology for work and entertainment and maintained a playful experimental side regarding inquiry and new technologies. He regularly learned new software for work and fun. In 2006, Bruce purchased an iPod to explore pod-casting for classes and research. In teamwork and teaching, Benton generally used email and MSN chatting, both text and VOIP, only occasionally using mini-cams for richer communication. On request, he used his Apple computer and iSight camera for desktop conferencing with Costa and West State University partners.

Lucia Moreno, Field Course Supervisor, Master’s Volunteer

Ms. Moreno, in her thirties, was a Master’s student in the Department of Romance Languages at USS. Ethnically Brazilian, Moreno had long brown hair, tan skin, and an open relaxed personality. She became aware of the EWP grant project before funding was
secured when Costa, Benton, and I met with the Portuguese Department regarding an endorsement for project language training assistance.

Upon her arrival to USS, Moreno became very active in the Brazilian community and within the Romance Languages Department. Her fluency in English increased and she became well known for her keen interest in helping students master Portuguese. In addition, Moreno became a proficient PC computer user. For communication, she often used MSN chat applets as a way to stay in touch with Benton, me and UFN students located in Oakley. In addition to PC computer use, Lucia had taken more than five online courses at USS and other universities she attended. As an instructor, she also used WebCT as an enhancement to her language courses at USS.

During the major exchange, Moreno attempted to gather data for her Master’s thesis. She joined the VFT to gain access to Oakley Middle School and as an opportunity to work with the Brazilian exchange students. Acting as a field course assistant to me, Moreno assisted at Oakley Middle as I worked as field course instructor for both USS and UFN. The USS students answered to Moreno locally and Benton provide local support to her when problems arose. Moreno maintained a constructive dialog with participating faculty at Oakley Middle School for students’ field assignments.

Dr. Carl Williams, Project Evaluator

Carl Williams worked as a professional administrator at USS in a center supporting instructional design and development across campus. In his 50’s, Carl’s background of music and travel drew him to the EWP project when asked to serve as evaluator. In fact, Carl knew some of the faculty and staff at UFN from an earlier visit some years prior.
As an adjunct instructor in the Instructional Technology Department at USS, Carl maintained regular contact with the IT faculty. His computer expertise was high and his technical abilities aided the project on several occasions. Video conferencing, a primary mode of the communication between sites, began at Carl’s suggestion. Carl’s USS office assisted with equipment and personnel. In addition, Carl’s digital movie students contributed by creating a publicity film promoting the project for student recruitment.

Periodically during the four-year life of the EWP grant, Carl visited the two Brazilian locations. There he met with participating faculty and students, made notes, conducted interviews, and shared down time to gauge the progress of the grant activities. Annually Carl submitted an evaluation report to the PIs and FIPSE administration.

*Universidade Federal de Norte (UFN), Muricema, BR*

Located in a growing city of 2.6 million (Census, Brazil, 2006), the Universidade Federal do Norte was situated along the northern coast of Brazil. The city of Muricema was one of the largest cities in the country, well-known as a mercantile, banking, and shipping center. Its leather goods, fishing and crabs, cashews, coffee, and fruit were nationally known. A low, rolling, almost desert-like terrain gradually sloped to the beaches and waving palms drawing thousands of international tourists year round.

Situated along the equator, temperatures vary little only about 3 degrees throughout the year. Though there were technically four seasons, two distinct periods consisted primarily of a rainy, somewhat windier season and the remaining drier, calmer months of the year. It was common to see tan bikini clad crowds strolling up the streets any time of the day. Locals tended to stay in the shade, not darkening their already brown skin. With the sunset, the locals came out, and the music and smells floated through
neighborhood windows on the tropical breeze. Eating dinner with friends in the cool night air was as much a national pastime as the local soap operas. Many nights, roars and cheers were audible throughout the city as locals simultaneously watched futebol (soccer).

Like much of Brazil, Muricema set few zoning laws; thus, housing varied greatly within short distances. However, an affluent commercial district along the beach flourished with night clubs, guarded and gated high rise apartments, high-end hotels, up-scale restaurants and malls. Across the city various markets existed - from the grand mercado (market) in its swirling four stories of concrete, to the ever-present street feirinha (little fair), which disappeared by dawn.

As a business center in a large, economically depressed region, Muricema became a mecca for displaced poor. Farm families crippled by drought drifted into the city, often without possessions or skills. The poor begged along city streets day and night. Children juggled at intersections for loose change. Though the government mandated education through the eighth grade, truancy went unmonitored. Schools ran dual programs – mornings for younger children and afternoons for older middle school children, because of a long running shortage of school buildings.

Travel about the city was not for the faint of heart. Drivers created new lanes, and used the horn as an integral tool for traversing congested streets. Drivers piloted grinding, squealing buses along the rutted streets, while passengers bumped about and hung on tightly. Robbers sometimes targeted buses in the evening hours as easy marks. Watching their belongings and avoiding each others’ eyes, passengers tended to be lower to middle
class citizens. The more affluent hired *moto-taxis* (motorcycle taxis), car taxis or owned private cars, rather using public buses or alternative *topici* vans.

Like all Brazilian public education, UFN suffered from funding insecurities, leading to infrastructure and technology hurdles for the EWP project. As a whole, the university had relatively good connectivity at its remote science campus but the city-center campus had poor connectivity. Neither campus had wireless capacity. The video conferencing equipment available only at the science campus, did not allow origination of four-point conferences. For computing, UFN was a Windows and Linux environment, with no Apples available. During very limited hours on week days, computer access with MSN messenger was available when labs were open. UFN computing administration tightly controlled university firewalls and networks requiring permissions for special software and equipment including the HorizonWimba online classroom. Inconsistent in the city, Electricity hummed and popped through old lines and glass insulators. Unavailable on evenings and weekends, overall campus access reduced communication opportunities for the VFT. In addition, the poverty in the northeast region made traveling via public transportation with technology, such as laptops, unwise. Participants at UFN included Dr. Leão Bezerra, Rui Costa, and me, Jo McClendon.

*Dr. Leão Bezerra, PI, Tools Course Teacher, Field Course Advisor*

In his 40’s, Leão Bezerra had brown skin and dark hair, like many people from the north of Brazil. Leão was short in stature and spoke with typical Northeastern accent. With a broad smile and a warm personality, Leão navigated the political channels of the UFN system deftly. After many years of teaching and interacting with the computing and engineering department, he worked as a liaison for the VFT in procuring documents,
registering students for classes, and keeping them enrolled through the fall 2005 UFN strike.

Dr. Leão Bezerra, as faculty member in the college of education, worked at Universidade Federal de Norte for over ten years. Also a native of Muricema, Leão traveled to the U.S. to earn his Ph.D. at a major Texas university some six years before the EWP project. UFN courses Leão taught included Mathematics Education, Computers in Education, Educational Technology, Distance Education, and Learning Theory. During the major exchange, he offered a new course in Learning Objects theory, design and application. Each university offered a similar course for the exchange students, and among the VFT these were referred to as “tools courses.”

Leão created a virtual (software) tool for his dissertation which allowed students to visualize equations on a balança or teeter-totter scale. Conceptually simple but effective, Leão and his students implemented this software in local schools encouraging students to work with difficult math concepts. Often k-12 students were given computer time as a bonus for other achievements or good behavior. In a place where schools were often open air, time in an air-conditioned computer lab was prized. Leão’s program motivated students and offered a chance at academic success.

Rui Costa, Grant writer, Multicultural Course Instructor, Ph.D. Candidate

Rui Costa helped conceptualize the grant proposal and played a critical role as writer. He came from Brazil as a high school graduate and struggled to perfect his English as he attended American universities. After years in the U.S., Costa maintained only the slightest accent and except for a vaguely European air, seemed completely at home in the southern city of Oakley as a Ph.D. student. A true world traveler, Costa felt
comfortable in any city worldwide, though he was born outside of São Paulo and remained a very patriotic Brazilian. In fact, it was Costa’s interest in returning to Brazil that led to the grant proposal. After five years in the U.S., he longed to feel the sun and sand, eat crab on Thursday nights, and hear the cadence of his native Portuguese in the streets.

At thirty, Costa experienced the advantage of having grown up around the world as the son of a chemical engineer and a language teacher. He lived in China, Australia, Europe, and Brazil. His interest lay in critical theory and educational technology. For the major exchange, Costa developed and taught the multicultural education course for all for sites. Unique in that it provided the only place all of the exchange students interacted, the multicultural course was taught online in HorizonWimba. The course objective was to bring global comparative perspectives to the classroom, and international technology integration, specifically in the U.S. and Brazil and other world cultures.

A Ph.D. candidate in the department of Instructional Technology at USS, Costa had experience in the field of computers in education, as well as computer hardware and light software coding. As a student and instructor in online environments, Costa considered himself an expert computer user. During the major exchange, he used both a Mac and a PC in Muricema and thus had access to all the PIs and leaders via various chat applets.

Jo McClendon, Grant writer, Field Course Instructor (UFN & USS), Ph.D. Candidate

A Ph.D. candidate in the Department of Instructional Technology at USS, I came from a background of library science, teaching, and web development. An avid computer user, I considered myself an expert in the online tools used for the grant project. During
the period of the major exchange, I lived and worked in Muricema, Brazil. I used a laptop
PC computer and later a desktop PC in teaching the field courses at USS and UFN as
well as remaining in contact with the VFT. I used a variety of Internet communication
technologies for communication, including MSN messenger, Skype, HorizonWimba, the
course wiki, and more. With a long history as a student and a teacher, my experience
included face-to-face, online and blended learning environments. In Muricema, my EWP
role involved general student coordination and teaching the field based course face-to-
face and online asynchronously. (Appendix F: Insider’s Story provides greater detail.)

West State University (WSU), Ephraim, US

West State University was a major state institution known for its leadership in
science and technology. Positioned in a green valley at the base of scenic mountains,
WSU enjoyed the sophistication of a highly educated population while being situated in
both a rural and a scenic vacation area. At the same time, Ephraim, with a population of
less than 100,000, provided a safe, quaint hometown feel only hours away from a major
metropolitan area.

Like many western U.S. cities, the town followed a grid pattern, seen from the air
as a checker board of green and gold. Broad flat streets allowed university members to
bike all over the campus and town. Snow covered the mountain tops, sometimes year
round, and descended to coat the valley in quiet whiteness in the winter. Clean cut and
wholesome, Ephraim maintained a conservative, religious political environment. Hiking,
skiing, and scenic drives drew many tourists annually to the clean mountain area of
Ephraim.
A largely agricultural area of the U.S. west, the population experienced a surge in Hispanics in the previous decade. Despite this, over 90% of the population remained white, and supplemented by less than two percent Asians. An area of youthful population and over 90% high school graduation rate, the Ephraim area anticipated population and economic growth. In addition to large scale and family farming, the area was known for extensive mining operations, popular recreation and hotels. Economic strength allowed a relatively standard of local income ensuring good schools and health for area families.

WSU provided excellent ICT connectivity, wireless capacity, computer labs, and video conferencing equipment across campus. Eleven computer labs were distributed campus-wide, with additional labs dedicated to individual departments. Various hours of operation allowed computer use from 7 am until 11 pm most days. The Instructional Technology department at WSU primarily used PC Windows machines but grant team members owned Apple PowerBooks and used iSight for instant messaging and desktop video conferencing exclusively.

Safe public transportation, available from early morning until late evening, required a small fare and allowed passengers to carry personal computers without concern. A complication existed as some field school locations were situated in more distant, rural sites. For those locations, bus hours and schedules were limited, forcing UER exchange students to arrive very early. Grant PIs and instructors used private vehicles for travel around the community and campus. Participants at WSU included Dr. Ben Gabriel, faculty leader, and Guy Jones, field course instructor at WSU.
Dr. Ben Gabriel, Faculty Leader, Field Course Advisor

With over thirty years experience in education and assessment, Dr. Ben Gabriel directed a WSU research center on school administration, particularly schools for at-risk students and families. Its researchers sought systematic ways to enhance school performance outcomes. Generally these performance enhancement systems were database driven, and utilized proactive data collection among client school teachers to gather data consistently during the year. These data then informed principals and other administrators in teacher training, school changes, and district programming to improve education, better meeting the needs of children and families. Coming to the grant project in year four, Dr. Gabriel had not developed a strong line of communication with other members.

As an individual, Gabriel was a tall, blonde man, in his 50’s. He was a conservative, religious person with a strong smile and firm handshake. Even when traveling abroad, he maintained a strict diet and ran several miles a day. Gabriel was empathetic to individual needs and went out of his way to help others. He consistently considered the big picture and sought problem solutions with a broad stroke. As a young man, Gabriel spent some early years in Brazil on a religious journey and remained in contact with friends and contacts there and continuing to speak Portuguese.

As a professional educator, Gabriel had a high level of expertise with computers, in particular using a MacBook for daily work. As a communication tool, he used iChat with an iSight camera, as well as email and listserv functions. Dr. Ben Gabriel was the only full time faculty member to be exchanged during the project. During his four-week visit in Campos, Gabriel used his computer to stay in contact with WSU research center
and his assistant, Guy Jones. His work at UER focused heavily on assisting the visiting
WSU students complete their field course projects. His family’s apartment became a
central gathering point for students to use the Internet, to meet and to collaborate. In
addition, Gabriel took the opportunity to introduce his daughter to Brazilian schools,
meeting the children, learning a few words in Portuguese and connecting her school to
her new surroundings via iSight video chat.

Guy Jones, Field Course Instructor, Ph.D. Student

In his early 40’s, Guy Jones has years of professional experience in teaching and
education. His position as assistant director of the WSU research center required daily
contact with Gabriel via Apple iChat/iSight. Jones used a MacBook on a daily basis and
considered himself an expert with project software and tools. Like the other graduate
assistants in the project, Jones had taken as many as a dozen online courses. Unlike all
the rest of the VFT, he had never taught an online class. Despite early VFT discussions,
Jones did not make use of the field course wiki to help manage his students’ projects.
Though there was an effort to coordinate the field courses at the four institutions, Jones
did not share his required reading materials with the other field course instructors.

Physically, Jones was a friendly individual, opening his family home to the
Brazilian exchange students repeatedly. Going out of his way to develop a strong
connection with the UER students, Jones took them on scenic and cultural outings several
times. For example, Jones provided one student, Emilio, a weekly breakfast during the
cold winter mornings due to bus and school schedules.

During the exchange period, Jones taught the field based course for WSU. He felt
it was critical to accompany the students to local schools and to find good matches
among the teachers there. Jones came to the grant project late in year four as the major
echange began. Without details on the project and the VFT members, Jones taught his
class without a great deal of connection with the other instructors except for Gabriel.

Going into the spring 2006 exchange, Jones planned to use more structure in his course
and wanted to establish more communication with the other sites. In reflection, Jones
noted that the field course was “a great opportunity and experience and it definitely
enriched [my] experiences [this] semester.”

*Universidade Estadual Rosario (UER), Campos, BR*

Campos was almost five hours away across the mountains from São Paolo, away
from the crowded, bustling city life of South America’s largest city. São Paolo was
known for its crowded highways, dirty rivers and stacked shanty town, or *favelas.*

Driving towards Campos, the highway became wider; the hillsides and farms spread out
in a green carpet. The land rose slowly and coffee plantations began to dot the hillsides.

*Piñons* (pine trees) towered nearby and the occasional toucan perched among the
branches. Odd mud stacks dotted the landscape where termites built colossal mounds,
requiring farmers to use cement fence posts for livestock.

Southern Brazil, much further away from the equator than Muricema, enjoyed
four full seasons. In many ways Campos was much like Oakley in climate and
topography with rolling green hills, hot summers, cold winters, and occasional torrential
rain storms. Largely an agricultural town, Campos was known for cattle, leather
processing, woodworking, and textiles. With a population of approximately 300,000, the
city prospered with a variety of exports such as coffee, cotton, fruit, and dairy products.
Yet Campos remained a small, welcoming village with friendly family establishments
and colorful houses. Like much of the country, *churrascarias*, or Brazilian steakhouses, abounded, offering delicious smells of simmering beef and endless salads, desserts, and delicacies for middle and upper class families. A large green park with an amphitheater dominated one end of town. Public buses provided student travel around the area at low cost. Though Campos was much smaller and safer than São Paolo, the possibility of muggings and petty theft remained as poverty proliferated nationwide. Campos enjoyed a growing middle class and young people frequently joined the nightly cruise up and down its main street. Local homeowners complained about the increased gang tagging and petty thefts. As a result, carrying computers and peripherals on public transportation was ill-advised.

As a part of the largest university system in the country, UER provided excellent connectivity, and some wireless capacity. Video conferencing was available through a small portable Polycom unit but low capacity prohibited four-point conferencing initiation. UER labs provided Windows PCs and participants often used MSN for instant messaging without mini-cams. Computer labs were available freely during the day but limited on weekends and nights. Students remained in campus buildings late into the night but refused re-entry after leaving during evening hours. Public buses stopped their routes early in the evening. This reduced campus access due to the university’s location outside the small town; thus, complicating travel to and from campus. Computing administration tightly controlled firewall access to its network, requiring permissions for special software and equipment including the HorizonWimba online classroom, mini-cams, and videoconferencing equipment. Participants at UER included Dr. Cadu Oliveira, PI and tools course instructor, Dr. Maria Oliveira, field course instructor and Dr. Ben
Gabriel, WSU lead contact, and assisting with field course at UER while visiting in November and December of 2005.

**Dr. Cadu Oliveira, PI, Tools Course Instructor**

Dr. Cadu Oliveira worked at Universidad Estadual Rosario for many years, teaching, writing grants, and developing a computer lab. Oliveira employed numerous student workers in the lab who gained practical skills while completing a four-year degree in computer science and business. Like many of the other PIs, Dr. Oliveira previously taught numerous online courses and rated himself an expert in the use of computers and software. Also like other principal investigators, Cadu Oliviera had taken no online courses as a student. During the major exchange, Oliviera acted as the professor of record for the UER tools course. In practical application, however, the tools course was taught by his graduate assistant. As well as being a professor, Oliveira owned a consulting business for designing and developing corporate educational software throughout Brazil. As such, he traveled by car to São Paolo once a week, maintaining a second home in the village-like São Maria district.

Having studied in the United States, Dr. Oliviera held a Ph.D. in Information Systems and Business Administration. As a consistent MSN chat user, he used this chat function to supplement video conference discussions. Though fluent in English, he often questioned his language skills. Through MSN, Oliveira chatted with Costa who translated the English discussion and provided context when missing. Coming from a different field, Information Systems, Oliveira commented that the project “objectives were not so clear and stable.” In his field of work, Cadu preferred more product/goal oriented projects more aligned with his “engineering point of view”. Ultimately however, he noted that
“the experience was very productive and rich. The multicultural results and perceptions were the most important results. The process and relationships were more important than the products.”

Dr. Maria Oliveira, Lead Faculty, Field Course Supervisor

Dr. Maria Oliveira held a Ph.D. in Educational Technology from a Brazilian institution and taught math education courses. With light brown skin and light brown hair, Maria, of European heritage, was considered blonde in Brazil. Having lived in Campos her entire life and worked at UER for years, she developed strong relationships with local schools and teachers. Maria worked tirelessly promoting technology integration in schools near Campos her entire career. On a personal level, she acted as a caretaker, frequently helping students and other VFT members in various ways. For example, prior to the arrival of the WSU exchange students, Maria personally arranged for their apartments and furnishings.

Unlike other VFT members who rated themselves as experts in computer applications, Maria considered herself as having mid-range computer-use ability. In particular, she had hoped to learn a great deal about chat applets, synchronous classrooms, video conferencing and wiki technology from the project. Like most other PIs, Maria had taught a number of online courses but had never taken an online course herself. In particular, though she was slated to teach the field course during the major exchange, she had not been active or even attended many of the video conference meetings among the other PIs in the three years prior to the major exchange. Besides a busy schedule, another reason for Maria explained her lack of project engagement was her level of English proficiency. During the first three EWP years, Maria enrolled in...
English classes, even attending a one-month intensive course in California. Still, by June of 2005, Maria remained unsure of her ability to speak English fluently. She continued her interest in the field course wiki but never quite understood the technology.

In Brazil, Maria worked extensively with Intel, an international corporation sponsoring the Teach to the Future© program. Within this local and national program, Maria taught a curriculum designed and approved by Intel to increase computer proficiency among K-12 teachers, particularly in Microsoft applications for the PC environment. Using this program, Maria began the Campos field course lecturing and demonstrating classroom technology to the WSU exchange students, none of whom were education majors.

Though Maria was a consistent user of MSN chat, her contact information was not shared until late November, 2005 during our face-to-face interview. I surmised this resulted from a combination of her language difficulties and frequent absences at VFT conferences. Communication continued as a challenge for Maria and though she professed a desire for greater connectivity, her absences were noticeable to the VFT. In reflection she lamented, “Distance was a wall - was THE wall.”

**Summary**

Appendix E provided an overview of the writing process, change in partners, bilateral partnerships and an outline of locations and participants making up the virtual faculty team during the major exchange. This information gave an understanding of the evolving nature of the grant organization through its changes. The various locations and personnel descriptions allowed detailed background information for the various issues which existed as assets or concerns during the project. The VFT descriptions as well as
charts included gave the reader a synopsis of the participants, their roles, and various locations during the major exchange for a better understanding of the complexities inherent in the project's large participant number and their movements.
APPENDIX F: INSIDER’S STORY

Appendix F presents an overview of my experiences and concerns, both as a researcher, and as a participant during the grant project. I provide a reflection on my personal conflict with the challenging emic and etic roles of the qualitative researcher. As an *estrangeiro*, or stranger in Brazilian culture, I struggled with my own emotions in response to various events occurring during the exchange period of 2005. This appendix also provides discussion of my concerns about power and position within the VFT. And lastly, this section concludes with a discussion of practical challenges affecting me and others in our roles as virtual faculty team members during the summer and fall of 2005. These challenges included social displacement, travel, health, student concerns, and technology problems.

Researcher Positionality within the Data

As a female growing up in the southern United States, I brought cultural preconceptions about the social roles of males and females as well as women’s roles in education like so much baggage with me to Brazil. Having served on several cultural and multicultural committees as a professional educator in the U.S., I maintained an interest in promoting cultural education – specifically in teacher education. Living in Brazil presented the anticipated challenges of language and working in a Latino male-dominated culture. Unanticipated challenges included intra-city and intercity transportation, differing socio-cultural rules regarding male and female societal roles, the meaning and effect of eye contact, and wealth and poverty divides within Brazil.

In my early 40’s with pale skin and red blonde hair, I appeared common place in the southern U.S.; however, in the Brazilian north, my ethnicity stood in stark contrast to
the brown skin and dark hair of the local population. Coloring my hair henna red and rubbing on tanning lotion did little to stop the overt attention I received on the street. I took Portuguese language courses at USS, UFN, and private language lessons during the five years of the project to prepare further for communication and mobility during my duties abroad.

Immersion in the Brazilian *Norteste* culture was filled with challenges. Some key problems included connectivity and therefore communication, language and culture, intercity travel, and position within the Brazilian university system which was tenuous. All of these changes and new surroundings removed my normal access to people, places, and resources not only for work and research, removing my sense of self in the organization of the virtual team. After working in Oakley for three years with Rui Costa and Bruce Benton, I felt out of my element in Muricema. Going from the U.S. where I had a sense of place and purpose to recording “a feeling of being out of control - directionless and powerless.” The Brazilian university system operated differently and I no longer understood the hierarchical structure. All of our requests for assistance needed to be funnel through Tadeu or Leão, who were consistently busy with competing professional obligations. Early in July I sent a message to Benton saying “Leão is still traveling so until then we are hanging loose since he's the man with all the room and time info.” Over time, I became more frustrated with events, in November noting during an instant chat, “Everything seems unnecessarily complicated - Brazil still doesn’t make any sense to me.”

Surprisingly, Costa also felt out of place and lost without position at UFN. During our interview, he compared Campos to Muricema, “it was clear to me that I was in a
researcher position…so it was easier to see my role than here where I’m teaching and also interacting with the students and I’m a doctoral student registered as a master’s student…what the hell am I, I have no idea!” Indeed it was discouraging to be forced to register for master’s classes at UFN. After three visits and more than eight months in Muricema, I knew little of the university, the people and the place. In Campos, the Drs. Oliveiras welcomed both Tel and me, integrating us into their work – it felt great to be recognized. Cadu Oliviera noted, “We invited you to our home because we like you! Not because you are part of the project! Understand?” Most importantly, Costa and I felt respected as professionals.

Emic and Etic Challenges

The charge of the qualitative researcher is to balance the emic, or insider perspective, with the etic, of outsider perspective (Fetterman, 1998). In this case study, my roles, as a participant and a researcher, were battling one another constantly. My vested interest in project success troubled me as being at odds with professional distance and clarity.

Upon my return to the U.S., the data and my experience abroad seemed overwhelming. Kleinman and Copp (1993) discuss this “paralyzing” fear of analysis (p. 24). As time passed, I distanced myself from the project and the participants, developing some balance between the emic and the etic perspectives. Time and distance allowed me to review the data, seeing the challenges and events as part of the flow of a project naturally unfolding in ill-defined circumstances. Kleinman and Copp’s Emotions and fieldwork (1993) pointed out that most fieldworkers face these feelings of inadequacy and confusion – even seasoned researchers have feelings of swimming in data and becoming
too involved with participants. Thus, I came to terms with my position within the data; they serve as a cord running back in my memory, palpably reminding me of the sweat and grit in the Brazilian heat so tangibly tied to the planning, teaching, coordination, and collaboration of the project.

My Role

I taught the field course in Muricema as well as Oakley. On a practical level, the course was taught via WebCT and the course wiki where the syllabus, course calendar, discussions and information were posted. Located in Brazil, I was able to visit the schools and work face-to-face with the USS exchange students there. For the UFN exchange students located in Oakley, I was assisted by Dr. Bruce Benton to some extent and to a larger extent by Ms. Lucia Moreno. Rui Costa taught the multicultural course for all four institutions online via HorizonWimba. I, too, wanted an opportunity to meet with all of the students at one time. Both Costa and I hoped that all the field instructors would attend both field and multicultural courses to remain involved and apprised of changes. As we began to coordinate the two courses, we realized several aspects were not aligning well including separate university and school calendars, separate syllabi, and separate deliverables and dates. Despite my attempts to assist field course coordination by sharing syllabi and reading materials, Maria at UER and Jones at WSU continued at their own pace with their own agendas. To further complicate matters, a strike ensued at both Brazilian institutions and the video conferencing equipment at UER operated only sporadically.

As a project manager, I remained concerned that I should step in to create an individual resolution for the field courses that I might convince USS and UER to adopt
my own agenda as a quick fix. As a researcher, I worried about skewing the data because
the project was intended as a collaborative endeavor and foisting my individual decisions
upon team members seemed inappropriate. Yet the project moved on rapidly and the field
courses needed some direction.

We each assumed our calendars were similar but discovered differently when the
fall 2005 semester began. Calendars and local operations were particular examples of
unintentional information silos in the project (e.g., Cole & Cole, 2000). Often one site
forgot to communicate holidays and other scheduling issues to other three locations.

Our efforts were not successful in finding a shared time for field courses to meet
or developing a shared syllabus but some coordination was agreed upon. These decisions
stabilized field courses at the four sites. Team members agreed to:

- work toward connecting each student projects with one other project abroad;
- use the multicultural course as a place to discuss projects and connections;
- select problem student projects to oversee individually;
- align due dates;
- share a web space for student project development; and
- share a final presentation time for student field projects.

A problem project was defined as one which was having trouble on various fronts:
inability to link to another project abroad, difficulties with partner teacher, unequal
student contribution levels or missing a multicultural aspect.

Though my personal hopes for a shared syllabus and a shared online class time
were not met, the group managed to forge ahead with decisions and actions could be
agreed upon. Costa and I were disappointed that more collaboration did not result. Costa
lamented, the courses could remain local in four locations, but “we need to talk. They
didn’t understand that.” Ultimately, each field course remained independent, sharing only
student project outcomes.

Power and Position

Both Rui Costa and I felt we lacked positions of strength on the team – a lack of
authority and control. Sometimes the distance just seemed a major barrier – we were so
far away and our voices were smaller. Both Costa and I taught courses online for other
sites. Costa felt our opinions were “valued” but ultimately decisions were made by the
PIs or lead professors. This lack of inclusion socially and control in decision-making was
exacerbated by the more obvious divide between professors and graduate students in
Muricema. Often, Costa and I felt discouraged at what we perceived as a lack of standing
or exclusion. Costa commented that this lack of power made him feel “…like a second-
class ‘worker’ under a body of administrators who weren't really doing much to
administer.” Yet as a female living in a foreign country, I felt less connected than Costa.

Social Displacement

As a member of the VFT and an instructor living abroad, the fall of 2005
represented perhaps the most demanding period of my life. Despite significant planning,
there was no adequate way to prepare for the challenges of managing people, classes, and
personal issues in a authentic educational environment. Each day revealed new issues for
negotiation and solution.

This section provides analysis of data, largely personal, but including some
information provided by Rui Costa and events relating to students who also lived in
Muricema during the fall of 2005. Resulting from notes, emails, chat texts, and personal
logs, the themes identified and discussed here are social displacement, health, technology, research complications, and VFT power and position.

Though I had lived in Brazil the previous fall of 2004, visiting schools, locating host families, teaching English and traveling about the city, it was all less hectic and regimented than the major exchange period. During that fall, 2005, I taught and supervised the field course for both UFN and USS from Muricema, Brazil with the help of Benton and Morena located in Oakley, U.S. Living abroad is complicated but teaching and living abroad is quite another challenge. Daily functions included buying food, washing clothes, and traveling around the city, requiring concentrated effort in a new culture and a new language. To assist in this transition, I took language classes in 2003 through 2005; yet, mastery of the language and the culture remained illusive.

Even small concerns became complicated when language was factored in. Brazil was a developing country with many differences in daily life from the U.S. Despite a population of over three million, Muricema’s services were considered rudimentary by western standards. Small apartment-sized stoves with bottles of propane sitting nearby provided cooking facilities but rapidly heated up the space. Water was purchased either in large or small containers and carried from the stores or delivered by a bicycle deliveryman. Only the most expensive commercial and professional buildings provided heating, cooling and elevators. Most homes and even commercial buildings were constructed with decorative bricks at the top of the walls or even entire walls of louvers allowing heat to flow out and cooler air to come in. Bars but no screens are placed over many windows; glass was optional, increasing concern for mosquitoes and Dengue fever.
Floors and walls were often tiled for cooling and to repel moisture, requiring regular cleaning from the dusty air blowing in from the streets through the open windows.

Like many developing countries, social infrastructure was often missing. Beggars, male, female, children loitered throughout the city. Shack villages called *favelas* appeared almost overnight between larger permanent structures. Streets, with no pedestrian right of way, were dangerous to cross and subject to potholes. Often, one way traffic signage was simply ignored. Sewage lines commonly broke and leaked openly onto side streets. In the *favelas*, often no sewage lines existed, thus sewage ran openly in the gutter, under the feet of local children. Security was a concern where poverty was rampant. According to locals, as much as 70% of Muricema’s population of three million lived in obscurity in the *favelas* or simply on the street, going uncounted in the national census. Commonplace items, like vending machines, did not exist, replaced by small businesses. Huts or kiosks on stilts or wheels magically appeared every evening, selling fried potatoes, grilled corn, candy, *espetinas* (grilled skewered meats), cold drinks, jewelry, or clothes. Other vendors provided services such as *chaveiro* (locksmith/ key-maker) or *zapateiro* (shoe repairman). Among the broken pavement and masses of foot traffic, any corner may be a veritable marketplace of services, where I might find dinner or even toilet paper for my apartment. Locals warned me streets that are narrow and quiet might be dangerous. I felt disoriented by the many lessons as an *estrangeiro* (foreigner).

In Brazil, I did not see women holding positions of power; I saw women in positions as teachers, nurses, clerks and mothers. On rare occasions, I was surprised to see a woman bus driver or ticket taker. Even at the university level, UFN had few female
professors and those seemed busy with classes and families. Thus, I did not find any other women like myself among the professionals at the college.

As a fair-haired woman, I was immediately identifiable as an outsider the locals who were shorter and darker. As protection against stares on the streets and male comments on public transportation, I wore mirrored wrap-around sunglasses. Because eye contact was an invitation to discussion in Brazil, glasses provided an immediate barrier. My personal log noted, “Finding salvation in a pair of knockoff Ray Bans! LOL! I feel a huge relief when I wear them on the street. I am free again!”

In Muricema, Rui Costa felt isolated as well, suffering from social displacement despite his Brazilian heritage. After dating a local girl, a daughter of the one of the wealthy cachaca (rum) families, called the colonels, Costa discussed his social isolation. The girl’s friends, while appearing to welcome Costa, neither called nor included him afterward. He described their ranks as quite closed. Among the local population, including the UFN faculty, neither Costa nor I were accepted in ways we expected. Costa explained, “The people with the money are the same people that landed here 500 years ago, you know, it’s very difficult for them to understand how it’s like to be somebody outside of your community.” Both Costa and I remained frustrated by our lack of acceptance in the local culture and university life as well. When Benton visited and learned of our social position, he grumbled, “I am angry with UFN and the Muricema situation because I told them [UFN] I was sending two of my best doctoral students…I specifically told Leão this and yet they took no advantage of your presence here.” This lack of acceptance was a disappointment after all our work at the institutional level.
Personally, I was surprised at feeling so cut off despite the presence of our
students and contacts at the university and the schools. As late as November while
chatting online with a Brazilian friend living in Sweden, I wrote, “I am mostly mute. I am
dying from the inside out…” My friend replied, “Oh my god, ME TOO!” Lacking face-
to-face support, I reached out online.

Two weeks later I traveled to São Paulo to join Cadu and Maria Oliveira, where I
found a very different experience. The city vibrated with the life and color of art,
international people, streets bustling with new cars and buses, a complex mass transit
system, and thousands of busy shops. Upon return, my personal log read,

The days in São Paulo were fantastic and the visit with Oliveira and Maria were
just super. I was happier there than I had been since arriving in Brazil… Sadly, I
felt more at ease there as the people are lighter and there are many more
foreigners who are blonder. The most important thing was hardly anyone stared at
me and not one single person commented on me or my looks.

Frankly, after writing and participating in a multicultural exchange and living abroad on
and off for two years, I was discouraged by this caged feeling. Yet, qualitative
researchers often experience the same sense of isolation when living and working abroad
(e.g., Kleinman and Copp, 1993).

Travel

Buses and bus terminals are the life-blood of Muricema. These noisy, scarred
hulks carried workers, children, and ordinary people from place to place. Despite the
critical function of these buses and their routes, there are no published maps, timetables,
or charts. The following excerpt came from my personal log in December, 2005, during a
typical day in a bus terminal while traveling across town to the UNF science campus:
Listening to the sounds of the buses despite learning to hate the time spent on travel and waiting, I have to admit I admire the energy of the terminal with the dozens of machines circling and the others parked nearby lining the inside of the terminal walls. Men are standing around talking loudly – taking up a great deal of social space. Women are sitting on benches quietly whispering to each other or their children. It is a real microcosm of the larger culture here. The people here are poor but not the poorest. The poorest do not have the money to buy a bus ticket which is R$1.60 for full fare and R$.80 for half fare (students and children). Of course the elderly and handicapped ride for free, so there are a lot of handicapped people in the terminals begging. They are the same ones every time – they get on the buses and tell everyone what a terrible disease they have, they need surgery or had surgery (and often lift their shirts to show the scars) and then go through the bus or terminal taking handouts. I think they see it as their job. One time there was a guy begging who had on expensive clothes and even a gold ring. Few people gave to him. Then he sat with a friend who got on the bus and seemed to be having a great time chatting and reminiscing. He did not appear sick though he did show his scars from surgery – quem sabe? (who knows?)

Even children hop on the buses and sell candy or other trinkets daily. Sometimes they are young – hard to say how old – maybe 7. They get on a one stop and get off at another, always alone. The bus drivers must know them as they do not charge them for riding. The kids are often filthy, perhaps no shoes or just old chinelllos (flip flops). But the people on the bus do not seem to care – even well dressed passengers readily buy from them. Brazilians eat a lot of what Americans used to call ‘penny candy’. There are small bags for perhaps R$.25 or R$.50 (.15 to .25¢ U.S.). And the kids sure know how to make change. The sellers in the bus stations must have a license because they have special shirts on and are much cleaner. These sellers get on the buses but get back off when the bus pulls off so they remain in the terminal selling to the people in the lines.

So the terminal is full of everyday working people and beggars. Many appear to have some kind of job. Many have on uniforms or t-shirts with company names on them (‘blue-collar workers’ in Brazil actually wear gold shirts). Lots of them carry sacks holding food containers. And at the end of the day, they also have other sacks with purchases in them, providing evidence that they have access to money. The exception is groceries. Most people do not get on the bus with groceries. I have on a couple of occasions and people stared at me. This is because groceries are delivered for free so even if you do not have a car you do not have to carry them on the bus. Of course I like shopping at the nicer grocery stores, and since I moved across the city, they are a long bus ride away.

Traveling across the city of Muricema often involved three or more buses or topicis (alternative transit vans), walking for dozens of blocks between stops in the equatorial heat and for women, in heels. Travel in a single day could require up to four hours for a
round trip. This was an ongoing concern for Costa and me as well as the other U.S. exchange students in Brazil.

Health

There are many health concerns in developing countries, including water contamination, tainted foods, unfamiliar viruses and infections, and more. Many of the students and instructors fell ill periodically during the fall of 2005. In addition, the bus I took every day stopped at the free hospital so that many passengers were sick.

Shortly after arriving in Brazil, a number of students suffered from a stomach virus or bronchitis. In fact, at some point every VFT member in Brazil contracted bronchitis; some, like me, suffered several times over the semester. In my case, I developed laryngitis twice in the fall of 2005 complicating video conferencing sessions. Coughs and infections were common all over Brazil. Locals believed too much sun and wind brought on chest colds and infections. In addition, fevers were spread by mosquito bites. The science campus in particular had many trees and as night fell providing nesting for mosquitoes. After my weekend using computers in Leão’s locked office building, I developed dengue fever.

Those of us in Muricema were not the only ones to suffer from illness that fall. Lucia Morena, at USS, became hospitalized in the middle of the semester, reducing my ability to track student activities in Oakley. Later, during my interviews in Campos, I learned that both Maria Oliveira and Ben Gabriel suffered from chronic bronchitis during the fall as well. Indeed, illness constantly concerned us, not only on a human level but on a productivity level. For example, I had brought the only scanner down to Brazil. While ill, I could not visit the schools, and others could not access to my scanner for project use.
And by the end of my stay, I fell ill again, spending a night in an emergency room. After two weeks, one specialist and little improvement, I returned to the U.S. in December, 2005.

Technology Problems

Technology was a continuing concern while in Brazil. Most technology is imported, including computers, USB drives, peripherals, and simple appliances like curling irons, washers and dryers, and microwaves. To add to the complexity, the government has a 100% tax on all imported items. Electricity flows inconsistently in the lines, often cycling up and down. At night in the poorer districts, blue sparks constantly spark and flame at glass insulation hubs along the lines and poles.

The Universidade Federal do Norte lacks adequate funding for infrastructure of many kinds including buildings, library holdings, technology and electrical and data lines. As a result there are a few PC computer labs and classrooms but these are guarded and constantly cooled with window air conditioners due to the tropical heat and humidity. The UFN science campus, located across the city, provides additional resources but, like all the campus locations, access is limited to daylight weekday hours.

In August of 2005 my personal laptop burned up due to the unregulated electrical current in my old apartment. It was a critical point for my research and organization of the field courses. After my Portuguese teacher offered help, I emailed,

Oi! Thanks for the offer of use of your computer for this pm but I have gotten access from Leão to use his office here on campus…So I will be here all weekend - you can reach me via MSN or gmail or via my cell phone. It’s going to be a long weekend but I am just delighted to have access so I can work!

The loss of my laptop continued to plague my research and teaching efforts during the entire fall. Replacement parts were not available in Brazil. And due to the tax, neither a
new laptop nor parts could be sent from the U.S. To meet deadlines in both the class and my research, I chose to spend one weekend locked in the technology building in order to have access to a computer and Internet. Once I finished working, I waited amid the heat and mosquitoes and yelling from a window for rescue by anyone with a key. With assistance of Leão Bezerra, I purchased a desktop computer which I used for the remainder of the semester and sold to the university in December.

Other complications included the inability to carry laptops or other expensive equipment on public buses or topicis (alternate transit vans). In addition, supplies like printer toner and recording media were often incompatible or very expensive. Once again, these items were subject to the 100% national tax making import prohibitive. Lastly, in October 2005, a building fire took out half the city’s telephone and Internet capacity for over two weeks. Costa and I, as instructors, as well as a number of our students, lost connectivity until repairs were made. Suddenly we were all hopping on buses every day, scrambling to campus labs for limited computer use.

In Figure 3.3, the pie chart visually displays four problems that significantly reduced my productivity during my fieldwork period. Derived from my personal log and email messages, the pie chart provides an estimate of time from June 6, 2005 to December, 16, 2005. Work time was based on an average of eight hours per day, including Saturdays and Sundays, totaling 1520 hours for the duration of my stay. Travel was based on an average commute time to and from the science campus of two hours per round trip, although outlying schools and overcrowded buses sometimes required more travel time. The USS student who was sent home prior to the beginning of classes required constant attention and counseling, averaging 80 hours during the months of
June, July, and a portion of August, 2005. Personal sick time was estimated at 300 hours, including two episodes of bronchitis, one of Dengue fever, and other illnesses. Time lost to technology problems consisted of laptop loss at 60 hours, procuring the new desktop unit and set up at 20 hours, Internet down time of 40 hours, totaling 120 hours. Other conditions and events were less quantifiable.

These conditions and events, largely related to cultural impediments, included: lack of campus computing access, lack of official university standing, language barriers, and general social displacement. An example of social displacement included such simple activities as purchasing paper, blank CDs, and pens may have required a visit to three separate stores and more than one bus ride. I computed the remaining productive time at 780 work hours of the total 1520 available hours during the exchange period of June to December, 2005.

Speculating uncollected data because of these problems is fruitless. Success in the project came out of group activity rather than the work of a single individual. The compromises reached in field course coordination were as a result greater function of school calendars and the claim that WSU and UER students had no available time for synchronous meetings, as well as technology problems or social displacement of personnel in Brazil.

If health had not been a problem, I would have preferred to travel to Campos to assist Maria Oliviera. Had all of these time-constraining conditions not occurred, I am unsure how (or if) the data collection would have changed. In a sense, these occurrences were simply part of the data collection and group collaboration process. According to a local doctor, foreigners often have little immunity to infection when traveling abroad.
Undoubtedly, illness hampered my language training which affected my experience while abroad.

Certainly, I would have preferred to remain in Brazil after the major exchange to complete data transcription and analysis. The primary delay in following the original data collection plan was the delayed IRB approval resulting from personnel changes at USS. As I sit here today, it is unclear to me how the loss of time due the enumerated factors would have changed the quality and quantity of data collection.

Summary

In this appendix, I discussed my position as an active participant within the project. This resulted in a personal struggle with emic and etic problems in data analysis and writing. The lack of coordination between field courses and other problems led to a consideration of power and position within the virtual faculty team for both Rui Costa and me. Lastly I covered other practical challenges of living and working in Brazil. These included social displacement, travel concerns, health, and technology problems. In addition, the chapter presented an overview of my fieldwork time distribution. This appendix provided the reader an understanding of the duality of my roles and the complexity of other problems occurring in my personal life and project work in Muricema, Brazil.
APPENDIX G: DEMOGRAPHIC QUESTIONNAIRE

Directions: Please answer the following questions by circling a letter, filling in the blanks or writing in any answers you wish; please use all the space you need. You may add comments to back as well. (please print or type)

1. Name: ___________________
2. Email address: _________@______________________
3. Department: ________________________________
4. Current job title: ___________________________
5. Age: __________________________
6. Gender: __________________________
7. Pseudonym you wish to use: __________________________

8. What area(s) do you teach in?

9. What is your degree area (area of study for your highest degree)?

10. How would you rate your computer expertise?

   Novice 1 2 3 4 5 6 7 8 9 Expert

11. Explain any relationship you see to this background, experience, and education with your collaborative work in this course/project?

12. How many computer-supported classes (i.e. face-to-face class with WebCT or other online support) have you participated in previously?

   A. None
   B. 1
   C. 2-3
   D. 4-5
   E. More than 5 (Please give number: __________)

13. How many online (synchronous or asynchronous) have you taken in previously?

   a. Please give a number: __________
   b. Please give some details regarding these courses:
      __________________________________________________________________
      __________________________________________________________________
      __________________________________________________________________
14. How many online (synchronous or asynchronous) have you taught?
   a. Please give a number: _____________
   b. Please give some details regarding these courses:
      _______________________________________________________________
      _______________________________________________________________
      _______________________________________________________________

15. If you have previously taught collaboratively (team taught) please give a brief description.
   a. Please give a number: _____________
   b. Please give some details regarding these courses:
      _______________________________________________________________
      _______________________________________________________________
      _______________________________________________________________

16. Other comments you would like to provide about yourself, your experience, or the collaborative teaching project:
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________
APPENDIX H: REFLECTION STATEMENT INSTRUMENT

Directions: Please write a reflection statement describing your experience in this collaborative teaching experience. Length may vary but please try to write at least one page. You may compare this experience with any other classroom or learning experience in your past, present or future. Please give at least one statement indicating your level of satisfaction with the experience of planning, implementing, and teaching with others. This may or may not include your satisfaction with the online tools (for example: WebCT, HorizonLive, others).

Pseudonym: ________________________________
## APPENDIX I: ADDITIONAL PARTIES MENTIONED

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Role &amp; Position</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Luiz Leonardos</td>
<td>Head of Computer Technology, Initial PI for UFN</td>
<td>UFN/UFC Universidade Federal do Norte Muricema, BR</td>
</tr>
<tr>
<td>2. Tadeu Carneiro</td>
<td>Faculty in Computer Technology</td>
<td>UFN/UFC Universidade Federal do Norte Muricema, BR</td>
</tr>
<tr>
<td>3. Pete Clarke</td>
<td>Initial PI at WSU</td>
<td>WSU/USU West State University Ephraim, US</td>
</tr>
<tr>
<td>4. Emilio Pinheiro</td>
<td>Exchange student</td>
<td>From EUR visiting WSU during the exchange</td>
</tr>
<tr>
<td>5. Camila Gilberto</td>
<td>Exchange student</td>
<td>From EUR visiting WSU during the exchange</td>
</tr>
<tr>
<td>6. Mark Bingham</td>
<td>Graduate assistant to Pete Clarke</td>
<td>WSU/USU West State University Ephraim, US</td>
</tr>
<tr>
<td>7. Mike Allen</td>
<td>Exchange student, a leader among the WSU students</td>
<td>From WSU visiting EUR during the exchange</td>
</tr>
<tr>
<td>8. Barbara Elton</td>
<td>Initial PI at UM</td>
<td>University of Midwest</td>
</tr>
</tbody>
</table>
APPENDIX J: INTERVIEW SUMMARIES

Interviews were conducted in a variety of ways and location or manner was either requested by the individual participant or in some way dictated by distance. For example, Rui Costa requested we meet in a coffee shop which was near his apartment; Guy Jones requested a Skype meeting because he was accustomed to the technology and had an existing account allowing us to meet despite the distance between Ephraim, US and Muricema, BR.

All interviews were audio-taped and transcribed. All participants received a summarized version of their interview, requesting changes and additional feedback. The following represents their approved summary.

Dr. Bruce Benton

*Note: Interview took place 11/17/05. Participant's Hotel, Campos, BR

When asked about the goals of the project, Bruce immediately joked that the point was to have his graduate students eat worms and snatch the head off a chicken. Not only was this indicative of Bruce's affable nature, but also the relationship between Bruce and myself, long term friends and his position as my graduate supervisor. Getting serious once again, Bruce admitted that his main focus was to encourage young, largely Caucasian pre-service teacher education students to travel abroad and experience something beyond the confines of Oakley, US. "What we wanted to do was to take a group of those young women and put them in what would be a completely different world experience. Everything else became a sub-goal." The use of the term "we" refers to the fact that Rui, Bruce, and I were the writers of the FIPSE grant proposal. Much of the following discussion contains asides which indicate this idea of shared ownership; in fact at one point, Bruce stopped and explained, "I don’t know who came up with what ideas so when I say "I", I really mean WE but you’re interviewing me so I’m saying I but really it was the three of us that were the triangle, the core that made everything happen."

Many of the other operations of the grant project came about as a result of the request for proposal from FIPSE, the funding institution. For example, partnerships between four collaborating institutions were required; two in the US and two in Brazil. Bruce commented that his career had been built around partnerships with various agencies, institutes, businesses, schools and universities. Creating partnerships for the grant work seemed a consistent goal, however, the paperwork required to transfer students and credits between institutions was substantial. As a result, Bruce, Rui, and I made an early decision to pair the institutions to reduce the paperwork. USS would partner with UFN; WSU would partner with UER. Because of his previous partnership experiences inside the US, Bruce explained, "because I knew it was about spending time - its about personal relationships" bi-lateral partnerships could reduce the diffusion of energies, allow two universities to work more closely. And the annual required conferences alternating between the US and Brazil were the perfect time for all four partners to get together. "Again because it’s about time," Bruce said. Pushing that idea home, he discussed our meetings via video-conferencing, listserv, and a bulletin board that was never adopted by the partners. Bruce explained, "It doesn’t matter to me that it didn’t work, what mattered to me was that it was clear that what we needed to do in order
to build relationships was to spend time whether that time was computer mediated or Internet mediated it didn’t matter, what mattered was to spend time." For him, spending time to build relationships was the real operational goal of the grant partnerships.

With some concern about what could end up in a public document, Bruce pushed on to recall that he had developed a close relationship with original partners at UFN, Luiz and Tadeu. At the beginning of the project, Luiz was the head of the computer science department at UFN and a long time resident of Muricema. He open, welcoming nature lead him to take the entire group to his mountain retreat on several occasions, as well as outings to the beach, and other scenic locations. Not only did this provide a quiet place away from the university and the city for the partners to work but also to enjoy quality social time. Bruce smiled and remarked that the time together allowed him to bond with Tadeu even though he spoke "five words of Portuguese and Tadeu spoke five words of English." Even though UER was not the USS bi-lateral partner, Bruce also felt he had "almost an allegiance" with Cadu Oliveira, largely because he is "such a character."

The American partnership presented a problem from the beginning. Many institutions have large Spanish language programs but few have an emphasis in Portuguese. Finding an institution interested in developing relationships so far from home was a challenge. Bruce discussed the many maneuvers launched by the grant team to find another American institution, even the Dean of the College of Education wrote letters to assist in the effort. After several false starts, eventually, a partner at a mid-western state university was found for year one, only to be lost in a failed tenure process. Fearing the loss of funding, a new partner search was begun, finding WSU seemed a bit of serendipity for both USS in need of a partner and WSU who had long been interested in a FIPSE-CAPES grant and developing relationships in Brazil. Unfortunately, the initial meeting in Miami for all the grant partners had been the previous year. The late substitution caused a pair between WSU and UER, parties who had never met. Bruce pondered the problem, saying, "I don’t know… (pause) I think in the end that Cadu doesn’t feel like he’s very close to the people in Utah and I and that bothers me." An additional complication was that the original PI at Utah changed in year four from Pete to Ben just prior to the major exchange. "So we changed university, changed to another university, change to another university, and then changed the PI at that university and with all those changes it just … if partnership is about time, there wasn’t enough time to develop those partnerships," lamented Bruce. The meetings in December 2005 gave the parties an opportunity filled in some of that missing shared time and to plan for continuing the partnerships beyond the grant funding. Each PI was able to better explain the focus of his own program, and together the shared time suggested that future collaborations might better align their existing workflow with collaborative efforts. Bruce was hopeful something productive would result from those meetings.

Bruce mentioned Herrnstein’s matching law [as a result of discussing with other PIs that weekend] and noted that in all relationships, individuals bring different skills, abilities, and resources to the partnership. This is further complicated by individual values; individuals value things differently. So relationships require a difficult balancing act based on these inputs and various values of the giving versus receiving of benefits. He admitted from his biased opinion, USS had given the most. For example, the money to pay to Rui’s graduate assistantship teaching the multicultural class for all four institutions came from USS. He was surprised to talk to WSU students while visiting Campos who
reflected, “if we were to do this all over again I am thinking it would have been better if
we didn’t have this multicultural class and that we didn’t even talk about that USS and
UFN was doing an exchange and WSU and UER was doing an exchange that you all had
your exchange and that’s all you know about. And we have our exchange and that’s all
we know about. And they said no they didn’t think that that was a good idea at all.” The
WSU students did not value the contribution made by USS to teach and coordinate the
multicultural class. The WSU students were also frustrated with the way Maria lead the
field course and things changed drastically after they communicated this to Ben, Guy,
and Rui. Again, they did not value the other party’s contribution. Perhaps we made a
mistake as a managing body not making more of the coordination efforts transparent to
the exchange students so perhaps they could better value individual contributions.

For example, from a USS perspective, he had trouble following the USS/UFN
field course that I [Jo] taught. He could not follow the due dates for the course. He could
not find the syllabus and rarely visited the wiki pages which reiterated the syllabus posted
due dates. There was miscommunication between UFN and USS, as a result the USS
exchange students “seemed to be clueless as to what was due and when it was due, and so
that miscommunication caused lots of tensions.” Bruce and I agreed that not have a
shared meeting time for the field class resulted in frustrations between USS and UFN.

Regarding collaboration, Bruce valued the face-to-face time the most. Video-
conferencing, emails and other online communications were a way to keep the lines open,
but the most productive times were the shared times between the PIs. He laughingly
recalled going to the Brazilian mountains with Luiz “…and drinking 5 bottles of wine
and talking to 5 o’clock in the morning, lapsing into religion at the very end before we
said ok time to go to bed, I mean that was a powerful time to spend together …” Bruce
admitted that it was ironic that in a virtual partnership, the most important times were
face-to-face. Even within the USS Instructional Technology department, half of the
courses are online and half are face-to-face, largely because Bruce and his “colleagues all
see the value of the relationships that are formed in those face to face sessions. And so
online still is good to do but it shouldn’t be the only thing that you do.” Conversely, he
felt the technology made filled the critical gaps between physical meetings. The
partnership “wouldn’t have worked without the technology. It had to be both.”

A critical part of the responsibility of this project was caring for the exchange
students. Bruce felt his role was paternalistic. “You’re going to take care of their
children. And they’re gonna take care of yours and so spending time with the children is
an important part of fostering life and friendship and I mean that’s really it, relationship
and friendship are all tied in together.” He learned a great deal about his partners by
interacting with their students.

Reflecting on success in the project, Bruce pointed out that sustainability was a
measure of success recognized by the funding agency, FIPSE. The meetings and
discussions in December of 2005 were critical, in his opinion, to working toward future
collaboration and therefore sustainability. This project was sometimes out of synch with
the roles and work flows of the PIs. The future needs to be better aligned with existing
personal and departmental work. Because Bruce personally did not work closely with
pre-service teacher certification, and only one USS exchange student fit this role, that
part of the project was not highly successful in his opinion. He felt the closer future
collaborative projects mirrored existing workflow, the more sustainable those would be.
But reluctant to admit that the partnerships might not continue, Bruce laughingly changed his questionable stance on success, saying “now that I’m saying all this, now I’m feeling bad…even if the project isn’t sustained the relationships still exist… So yes, yes it was a success - I have built these close relationships with all the partners and this relationship will continue - that is success.”

Dr. Leão Bezerra

*There were a number of interruptions, students arriving, telephones ringing, etc. So the summary may seem a bit disjointed.

When asked about the original goals of the project application, Leão felt that some of the major goals were:
- to instill a sense of multiculturalism in the students by putting the students out into the field collaborating with practicing teachers
- to use technology to collaborate and see how different cultures use technology integration in the classroom
- to collaborate between our institutions and among ourselves as researchers

He said previously multiculturalism had not been a goal for him but rather technology integration. Thus the project pushed his research interests.

Regarding collaboration and partnerships, Leão believed the relationship between USS and UFN was "obviously" much stronger than that of WSU & UER because the similarities between the institutions were greater between the first two as well the increased collaboration between USS and UFN. He believed this was attributable to the exchange of Jo and Rui, the research similarities between the two departments, and the fact that both institutions were "more personally involved" than WSU & UER. Definitely the physical presence of partner faculty helped the project.

Regarding the use of the terms relationship and personal involvement, Leão felt that these two terms were "inter-related" and this kind of working relationship makes collaboration much more productive because problems and successes can be approached as joint concerns. More distant and weak connections make communication harder. Closer relationships are more "natural" and getting together can be more informal - "we're here so why not get together."

The school projects were very successful. The student projects on culture between USS & UFN were highly successful. He wishes he could have been more involved. He tried to involve more of his education students in the exchange student projects but they simply did not participate. Leão is unsure why. He also felt, personally, he was unable to participate completely because of competing concerns and job duties. Neither of these does he consider a failure but simply not as successful as he would like. Another personal success for Leão was the opportunity to teach a learning objects course which he had long wanted to make the time to offer.

He felt that the Brazilian students who went to USS were a success to varying degrees. Some of them were highly involved and seemed to have learned much from the opportunity, while others were more interested in personal agendas which competed for their time. He expected that they would return and continue working or helping in his department for at least a while bringing back information on instructional technology. To be able to offer "instructional design to our students would be a great success."
After our interview concluded we discussed my health and health problems of others involved in the project as a common problem among foreigners traveling to Brazil. As we continued to chat, Leão noted: He comments, “We could never have accomplished half of what we did without the video conferencing.” The immediacy of video conferencing seems to generate much better cooperation and feedback than emails.

Rui Costa

*Note: This interview took place on 12-06-05 in a coffee shop in a mall near the city center in Muricema, BR. The audio was filled with the clink of dishes and the grinding, sighing sounds of the coffee/espresso maker.

We met and bought a cafezinho and sat down at a back table to try to get away from some loud talkers at the front of the shop. Rui dabbed his head with a napkin and explained, "Sorry, I cut my head yesterday getting out of the topici. I was bleeding yesterday, really and I hit it again now just as I was coming in and now…” (showing me the bloody stain on the paper). I said I had seen the same thing happen to another guy - there's a huge bolt on the sliding doors of the retrofitted topici (mini vans converted into alternative public transportation). Rui winces and says, "horrible, but anyway……shoot."

When asked if he remembered the original goals of the grant application, Rui admits we had tried to go back and revisit those on more than one occasion but he was not sure he could remember them exactly. What he thought was ultimately important, regardless of what was actually written, was to "establish these partnerships between the public schools and to use technologies, the communicative functions, to establish these partnerships between the schools and exchange knowledge about different cultures, different nationalities as a way to approach different cultures." He closed his eyes and tried to imagine the document, "But I know we had eight bullets, I just don't know what they say any more, it’s part of the problem of saying what FIPSE wanted in detail in specifics."

When asked if that goal aligned with his personal goals for the project, Rui admitted he hadn't really thought of it in those terms. "I mean my personal goal as small as it might be which is not very related to the project was that I wanted to go back to Brazil for a bit." In fact, as he tried to remember, Rui thought perhaps what he stated as the project goal wasn't actually one of the eight bulleted goals after all. Instead perhaps he had simply decided that that was the most important goal and therefore super-imposed his own personal goals on the project. That said, I asked did it even matter what the first eight goals were. Rui started to say no, but agreed, that yes, it did matter. Whatever they were, he felt they had to relate to partnerships because that was a main focus of Dr. Bruce Benton, our PI at USS, our friend and advisor. Not only was it an effort to establish connections with other international institutions, but specifically to answer departmental criticisms. Rui recalled, when writing the grant, we (Rui, Benton, and I) discussed "the department focusing too much on its own, you know, navel and so I think that whatever those 8 goals are, they had that idea that culture and technology are two currents moving together. I think those very abstract sort of things ultimately to me meant this more original goal. I think they matter because...our project has been directed by those goals ultimately though in kinda weird ways. ‘Cause one thing is they are more things than we
can, you know, actually do, so I think that it does matter, yeah. We wouldn’t have gotten
to any of what we did unless we started with those objectives in mind." Rui noted that the
more people that became involved in the project, the more the goals evolved over time.

Rui mentioned partnerships in relationship to the goals. When asked to elaborate
on the partnerships, he admitted, "I never really thought of this as partnerships." Rather
he felt that “partnerships” was a concept promoted by Benton; Benton wanted to develop
university partnerships which would last and evolve into a number of ongoing projects
over time, according to Rui. Rui, on the other hand, said he wanted "university/school
partnerships because I always criticized the department as being completely disconnected
from schools...to me those partnerships were the really interesting ones ‘cause I always
thought that it would be stupid for a university not to be involved in the community."
Instead, Rui assumed the university partnerships would simply grow out of the five years
of work during the course of the grant. Beyond the schools, the more important
partnership he felt was the three of us, Rui, Benton, and I, writing and working together.
Rui remarked, "I like that style of doing things. I don’t envision doing work alone, I don’t
like it. I guess like him [Benton]. I like…I don’t know if I got it from him or it’s just that
we all clicked because we all liked kinda doing work like this."

As far as the partnerships with schools, Rui did not feel as though he could speak
for the schools in Campos or Ephraim. But he was quite glad we worked with the Oakley
middle school. That partnership built on a relationship established by Benton for many
years. Rui noted that gaining access to US schools is sometimes quite difficult and this
established relationship made our work much easier in the grant project. Regarding the
schools in Muricema, Rui was unsure of the depth of the relationships previously
established by Leão. At CACO (a small barrio school far from the center of town), Rui
recalled, "I know he has some students working there but I’m not sure he shows his face
there very often, so I don’t know if I qualify what he does as a partnership because when
we..., when I went there the first time when I came in June, they barely recalled who he
was. In fact, they thought I was him when I went there." However, the people at CACO
were aware of Leão Bezerra and gave us a warm welcome. "Our reception was really
good and people were very open and they still are whenever I want something and I need
something for the kids or even you know when our students can’t get stuff done, if I go
there and I’m representing UFN, it seems that what they couldn’t do the day before, I can
get done just because I’m representing the project director." At Catarina Barroso school,
again, Rui wasn’t convinced that the people there had a real partnership with Leão but
rather some of his previous students were teachers there. Because of this
professor/student relationship, Rui felt there was a much "stronger connection there."
Still, Rui remarked, Leão doesn’t go the schools enough to establish what he would
qualify as a real partnership. He quickly commented, "I mean he [Leão] has a lot of stuff
to do, I’m not criticizing him in what he should or shouldn’t do." Using his own
definition of partnership, Rui believed he had much stronger partnerships himself with
the schools in Campos and Muricema over the last year because he spent more time there
and shared not only work but down time with the teachers at the two schools. To qualify
that statement, Rui added, "I’m only a doc student, now a professor has a lot of shit to do
so maybe maybe maybe it’s the best level of a partnership you can reach. Independent of
that, it helped a lot." Not knowing a great deal about Ephraim and WSU, Rui said it
seemed to him that "Ben has a really good working relationship with the schools
especially with the school on campus and that makes a world of difference." He felt that making connections on one's own college campus at a "model school" must be much easier.

When asked to reflect on the partnerships between the universities naturally evolving from the grant work, Rui admitted that he had just spoken with Benton about this, and "I really don’t think there is much." To explain, Rui elaborated, "to me if I’m going to define partnerships it’s going to be on a personal level, personal interests and personal agenda." Among the four partner institutions, he felt there was a strong bond between USS and UFN because of the time spent together and the closeness in the departments. Rui said, "On our side [UFN and USS], I think it’s pretty nice. I mean, we go out, we work together on projects, I worked really well with Leão, I liked working with him. He’s very good about getting things done when we work together. He’s very interested." However, between WSU and UER the tie was much weaker; the time had just not been invested. Both Cadu and Maria Oliveira are very busy, and Ben, too, runs a center on the campus of WSU requiring a great deal of time. And their focuses are quite different - business at UER and educational assessment at WSU. But Rui was impressed lived in Campos for four weeks: "I think going to Campos is a good example of how something...that...that he didn’t need to do, but demonstrated some effort in trying to maintain a partnership." About the Oliveiras he remarked, "they are very nice people but I don’t think they saw any particular benefit in this…"

But in the long run, Rui did have some concern about his own role and position within the team. He explained a real partnership is a bond that goes further into a personal connection. "The more interesting type of thing is...it’s when I feel like there’s a kind of co-dependence. I mean like you are building...say, you know, making a buddy or a real friend, you know, sort of the same thing. It feels like, like we are cooperating and it’s interesting but...but the auxiliary sorts of things that make me really want to connect with a person like Leão like I go every once in a while and get a cup of coffee and chatting about life or discussing a problem, about politics, something other than the tangentially related stuff to what we do would be nice to feel like you have a real bond with somebody." In fact, living abroad, though it was Rui's home country of Brazil, had its stresses. As graduate students rather than a PI on the grant project, both Rui and I were treated well but not as academic peers. Rui explained, "I think that I wasn’t received as, in my expectations, of what being a colleague would be I…it didn’t meet my expectation. I felt like, ah, as a visiting person from another place with a different experience I felt like it could have been much more fruitful. Personally...that’s the thing, you’re being caught between being a student and a ah a colleague then I don’t know what the social bonds should be." Noticeably during Rui's stay in Campos, he was much more accepted in the academic community, socially and professionally. He recalled, UER was "a tighter community there, of students working in Oliveira's office and the whole... I mean it felt like you could see the whole computer science department. It felt like one little group of people that were always working together and interacted well with the students and and they...I think I became...it was clear to me that I was in a researcher position... so it was easier to see my role than...than here where I’m teaching and also interacting with the students and I’m a doctoral student registered as a master’s student you know...what the hell am I, I have no idea!" The social disconnect was clear as Rui pondered, it was like "being caught between not having those [students] as friends and not having professors as
friends and so it became kinda a null, finding someone else to interact with. So it felt like
the partnership could have been much more productive if anyone… if we had had more
of a social bond." Not only did he feel that greater social connection could have fostered
more and other project collaboration, but Rui went on to wonder at the level of
participation of the PIs, as most were more administrators in his eyes - taking care of
paperwork but only attending the schools on special occasions.

This disconnect between our students and the university professors, put both Rui
and me at a loss for social outlets while in Muricema. Trying to delve into the larger
social implications of our cultural disconnect, I asked Rui about a term I'd heard:
"colonels". According to Rui, the term originated from the colonization of Brazil. "Brazil
was divided into these wealthy families that owned the land and they…The people with
the money are the same people that landed here 500 years ago, you know, it hasn’t
changed at all. These families started colonizing this place between 100 and 300 years
ago...They have an enormous extended family, so they have no lack of friends and
associations so they have really no need to open up their circle to meet anybody else and
they don’t really know how it feels to be outside their social circle cause they’ve never
gone anywhere. They’re very closed into that and it feels very comfortable." Asked if he
felt this could be the source of not being more included in the university culture in
Muricema, Rui could not say but reiterated, it was a missed opportunity to cement our
relationships and create a long lasting bond with our local partners.

Each member of the VFT was asked what s/he would take away from the
experience. In retrospect, Rui felt the project had "reinforced the fact that I like working
with the schools directly... I feel like this is good." In addition, he learned that he enjoyed
teaching the multicultural class even though it was incredibly stressful. "I mean it was
good. I mean it was very difficult to teach four places with two different languages and a
new course but I liked it and the outcomes were good." At the same time, he doesn't want
to repeat the experience, saying, "It’s just too stressful." But it taught Rui "what I knew in
principle because I was designing the course from these principles that the course has to
be different every time. That’s kind of frustrating because it’s… it takes a lot of effort."
Despite all his effort to balance his interest and interaction between the four sites, Rui felt
it "...was clearly unbalanced between universities because I was present here so having
the presental [sic] location here made a world of difference to our students and I got a lot
of crap from other students who felt like they didn’t benefit as much and it was difficult
to manage." He did feel it was worth teaching online and trying our idea of being in
another location and learning about multiculturalism, but it would only be tenable if there
were a person at each site giving the students the time, attention and reflection to unpack
their experiences. "It’s cool it’s just not manageable", he said shaking his head.

In reflection, Rui was disappointed that other PIs did not step in to help teach in
the multicultural course as he had expected. "That richness of collaborating with other
people to find out other perspectives and to give them other pedagogies and whatever
cultural affordances, whatever it is, I mean, it just didn’t happen. It never occurred." If
the project were duplicated he felt strongly that it should be taught collaboratively with
an instructor at each site. "I mean because it is THE only course where everybody is
together, then it would make a lot more sense then. It would make a lot more sense to do
the course that way. It would work much better." Recalling even more, Rui’s frustration
became clear as he said, "The fact of the matter is that there WERE people there. And
they responded to Benton, they responded to Ben, they responded to Guy, or they responded to Maria, or whatever, or whomever they responded to, I mean there was somebody there. And these people were involved in their projects, they coordinated the field stuff. I mean they were doing everything BUT getting involved in the one course that put everybody together." It was a difficult balancing act. Having no other time when all the students were available and together, many things, especially the field projects, were discussed in the multicultural class. Rui was constantly fighting to keep the course on track and get the student to think critically about the cultural issues and readings he presented. Rui lamented, "I saw it like this, it was a struggle between maintaining a seminar on these discussions that went very well to…. Being this focal point where I’m the lead instructor, I’m the only who is knowledgeable about what everybody else is doing because these kids are in my class discussing their projects… That’s not the point of the course in the first place…” The coordination between the field courses did not happen, because, according to PIs, there was no time that all the students were available for a meeting other than the multicultural course. "IF the field course had gone as we planned where you [Jo] were able to meet with Maria, Guy, whatever… and discuss the issues of what’s going on and how the projects are cooperating, even the part where each person was going to take care of a project… which other than me and you, I think…I think…but it never went anywhere," Rui sadly recalled. "I just think it wasn’t a priority for most people." As far as Guy's participation, Rui remarked, "He didn’t even KNOW he had to cooperate as far as I’m concerned," as he was added too late in the major exchange and course cycle.

When estimating the success of the grant project, Rui adamantly replied, "Ah, I think it WAS successful, I think..., I think that the partnerships between the schools..., the schools are better off because of the projects." For the students and their growth, Rui noted, "I think people realize that it’s, I mean really it’s [Brazil] a very difficult place to work in and maybe there are things that could have been done differently but it would have been great to have had better planning and everyone talks about that all the time…I mean I think it was successful, I think we gave the students…our immediate students, a very different perspective, I think that they worked very hard on what they were doing, I think they got a kick in the head about how, you know, how work actually happens and a lot and all of them learned how much more difficult it is to educate than they thought." Our impact in the schools was greater because "it wasn't just another two week project" and the students did a great deal more than observe. Also Rui believed the connecting of projects from school to school was a success, "I like the idea that we had each student out there even though it was much harder, I think I liked it because it did that objective that we had, you know, it was one of the subgoals that we had that they would kinda map the people working from place to place, I think it was excellent." As regards the university partnerships, Rui generalized, "If they get more money they’ll work together. There you go (slaps hands), you got a partnership. You could find some more money to work with Z, suddenly you have a partnership again. It won’t be like a bond." His concern was that the partnerships between the universities were too superficial and had not become personal friendships enough to ensure continuation beyond the funding for the current project. "They’re [the PIs] gonna come, visit each other once and awhile, talk about the project, get things done. It’s not a partnership; it’s just not a partnership. A partnership should just go like this (rubs his hands together) and then go away like this, it should be
more like ah --- how can you say *complicidade*, it's like ah, more like co-dependent. Right now...everything's very goal driven and not very instinctive and natural."

Note: In response to this summary, Costa wanted to change his summation of Gabriel’s commitment and contribution to the team. In the intervening year, Gabriel had led the VFT in writing a new grant application. Costa said, “Considering his [Gabriel’s] effort in trying to keep things together. Ii think he ended up showing a lot of positive interest in maintaining the partnership, even though it is not quite up his ally (work interest).”

Lucia Moreno

*Note: Interview took place 12/4/06 via MSN chat*

When asked about the originally submitted grant goals, Lucia was not familiar with them as she was a late addition to the project. She became involved by way of her connection to the Romance Language Department. Lucia was seeking a more active topic for her master's thesis and thought the Emerging World Perspectives grant initiative might provide a context to "work with Brazilian children in another country" as well as American children using a Brazilian book. She had tried an earlier context inside the United States and had been unable to find cooperative schools and teachers. Once this project had been approved, Dr. Bruce Benton asked if she would like to help with the grant's field course and she agreed. However, she never became aware of the grant goals.

Based on her activity in the field course she felt that the students were to use technology to help the teacher provide a better learning experience, as well as to "use technology as a way to encourage multiculturalism among the children." Her experience in working with the children was that there were challenging days but "in general it was wonderful." The discouraging part of her role was trying to help supervise the other Brazilian exchange students, because the partner teachers could be completely different. While teaming with one Brazilian exchange student herself and partnering with a very supportive teacher, her own classroom went exceptionally well. Indeed her partner teacher said "you can do anything" and was open to whatever suggestions she and her student partner created.

Other students experienced unruly children, children with learning disabilities, and sometimes uninterested, unsupportive, and absent teachers. Specifically one teacher did not want the students excited, only endorsing quiet, seated activities. Another partner teacher used the exchange students as substitute instructors while he spent most of the semester traveling to conferences and out of town activities leaving them with little direction. Lucia felt badly for these Brazilian exchange students and tried to help in any way. While she felt all the Brazilians had great ideas and lesson plans, many teachers were simply unreceptive and as a result did not provide the kind of support needed to make the lessons go well in class. Sometimes the children would not cooperate and this was very discouraging for Lucia and the exchange students.

Lucia's lessons were very active and encouraged play. The lessons centered around culture and allowed for music, dancing, *capoeira*, and other South American languages, arts, and crafts. The teacher and the students were very responsive to these
new ideas. Lucia's exchange student partner created a learning "cabbage" which was so popular, their partner teacher presented the method to the entire school.

A more challenging part of her job was her role as teaching assistant for the field course. At first the exchange students did not recognize Lucia's position to supervise and assist them. After mentioning this to Jo early on, Jo sent a message to all the Oakley exchange students to clarify. From that moment on, they did seem to accept her supervision and her suggestions much better. In addition, communication with the larger grant management group was not possible. Lucia had class at the time selected by the PI's for the weekly video-conferences. As a result she never felt she understood what was done at these meetings even though she received many emails regarding discussions conducted at those times. In addition, Lucia could not attend the Rui's Multicultural course meetings in HorizonLive. Therefore, her knowledge of the other projects happening in Brazil and at WSU was scant. In fact, she could not remember any projects from WSU or UER at all though she did remember the name of one exchange student in Campos. In addition, she felt as though the collaboration between sites was lacking when there was little interest via IdeaShop to gain a partner to her own project. In fact, she and her partner made significant changes to their lesson plans in order to better coordinate with one of the American exchange students in Muricema, yet little cooperation was returned.

For Lucia, collaboration was largely local and face to face. Her exchange student partner was so reliable, Lucia could essentially "forget about her part" because it was always done so well. In addition, Lucia's work with the middle school partner teacher was exceptional. The teacher was always available, always supportive, and always delighted with the way the cultural lesson plans were carried out in her classroom. When trying to assist other students with less cooperative teachers, Lucia was stunned when one teacher declared "I don't care what they do as long as it lasts fifty minutes. They can eat a bowl of cereal in front of the students and I don't care. As long as the students are quiet." Specifically, Lucia felt that the partnerships between exchange students should have been made prior to leaving the U.S. when American and Brazilian exchange students could have discussed projects face-to-face.

Regarding success, Lucia felt that the grant project was a success for the exchange students going into the elementary school in Oakley. They learned things and tried hard even when things were not optimal. She especially felt her project was a success and that she had created a lasting relationship with her student team member and partner teacher as well as the children in the classroom. Even the technology support guy at the school was excited about their work. So clearly it had a positive impact on the school.

Dr. Carl Williams

*Note: Interview took place 12/8/05 at UFN video-conferencing room, Science campus, Muricema, BR.

Our interview began with small talk as we had not seen each other for six months, including cultural discussions about international travel, intercity buses, and concerns over living arrangements.

Initially Carl could not recall the originally submitted grant application goals. On reflection he stated a primary objective was clearly to provide a multicultural experience for the exchange students which would allow them to become less "centric" in their
world view. He wanted to point out that as evaluator, he "didn’t live, eat, and breathe this everyday" as did the VFT members and each time he needed to review the project and new data to become aware of the latest issues. An additional goal, he surmised, was to bring together schools in both US and Brazilian cultures using technology as a medium to span the distance and to learn from one another. Lastly he noted that there was a mandate from FIPSE to seek ways to continue collaboration among the various parties. Carl noted that going back to the original goals was a key part of his job as evaluator to look at what our stated objectives were and what we ultimately achieved as a project.

Because Carl was not a VFT member he could not speak to the standard questions. Since he had no personal goals which with the grant aligned, I asked how he felt we’d achieved our stated goals. He noted that the implementation goals were certainly in place, and the VFT members had made changes as needed to keep the grant viable. For example, Carl pointed out that the grant originally intended to focus on teacher education students only. When the program of study for these students was found to be too tightly scheduled, recruitment was opened up to other majors. Additionally, the original plan called for exchange of faculty but that too had to be adjusted when funding and family obligations did not allow for that. Carl did recognize that Ben, from WSU, went to UER for a 3 week period, as well as Jo and Rui from USS stayed in Muricema for the entire major exchange. The students preferred having their home institution instructors at their exchange sites. The UER students referred to their stay as the "before Ben and after Ben" periods. I noted that I had wanted to go to UER to assist but concerns over the politics of such a move lead to that not happening. Carl recognized that some of their confusion at the UER site may have been caused by the late addition of Maria as an instructor as well as the late WSU student selection which did not allow for the cultural prep work done at USS.

In fact, Carl noted that following multiple interviews with all the exchange students, he was convinced that none of the students could articulate the grant goals beyond that "it had something to do with technology and education". In recapping, he felt that changes were made to continue to make the grant viable. Despite small problems and momentary snafus, "the adaptation has been as good as it could be."

When asked about special collaborative events, Carl generalized that Cadu was the least participative member and least available according to students. But reflecting further, he decided this may have been due to language and communication problems during implementation. Laughing, Carl pointed out that he and others felt the video-conferences "may have been what saved this projects’ butt." This seemed amusing because originally he had thought the project did not need such rich communication for standard meetings. His discussion with Leão only the day before confirmed his conclusions that video-conferencing was critical to making the project a success. The project ambiguities and some personality differences could have created havoc but did not.

Tangentially related, our discussion moved to the major miscommunication and mishaps which occurred in Carl's recent trip from Oakley, US to the Sao Paulo airport and overland route to Campos and UER. We all had a certain "dependence" when traveling to another institution. Carl remarked, "oh gosh, I need to go down there. Ah, who, who do I talk to arrange this." In this case, several of the VFT in Brazil were
attempting to help, but the information seemed to be at odds. Ultimately, Carl relied on a complex plan devised by Ben to remove the need for a public bus from Sao Paulo to Campos. Unfortunately, the car Ben was driving to drop off with Carl's driver, broke down. This was complicated by the lack of affordable cell phones in Brazil. Added to the mix were his lack of Portuguese language and the driver's inability to speak English. In summation, Carl said, "in terms of the collaboration this one didn’t work…too well." There was this potential for misunderstanding throughout the project. The fact that it managed to adapt as well as it did is a mark of success.

We talked a bit more about optional travel plans that had been offered and could have worked - some of which Carl was unaware of. I was aware of these plans and was in Campos at the time of his trip. Bruce and I had taken a bus from Sao Paulo to Campos and wondered if Carl's language skills would allow him to do the same. In the end, it appeared from our shared emails that Ben had created a workable plan benefiting both himself, his family, and Carl. He lamented, "and so in the end, this trip, I’ve calculated it now, it’s over 300 dollars for me to go and come which I could have done on a bus for hell of a lot cheaper."

Some notable points of lack of communication lay with WSU's lead, Ben. Carl discussed Ben as "a leader; he is somebody who feels like he can handle this, he has the Brazilian experience, he also has his agenda for why he’s even being in this project." So despite the fact that Ben operated rather independently of the other VFT members, Carl felt he was highly capable and saw the project as a way to get involved in Brazil after having unsuccessfully applying for a FIPSE grant previously. Each PI had competing agendas and other duties pulling at him or her. Sometimes others were aware of those issues and sometimes not. Carl felt these competing agendas worked against the project. It was a challenging communication and balancing act. Carl thought that communication worked as a "mechanism for doing it [collaboration] has been facilitated by the listserv, by the ah videocon…the videoconference I’m convinced that that’s been a ah key element." He admitted the base case scenario would have been to create a specific communication plan in the beginning. However, partner institutions and things in general changed. According to Carl, "Things had to change. It’s how people adapted to that change, the agility factor. Was this group agile enough to make the changes and so far I’ve had fairly positive observation of that."

Some faculty went out of their way to host visiting team members as well as exchange students. I noted that I had heard some remarkable stories in conducting my interviews for the project. Would collaboration be facilitated if we had had better communication of the special hosting services we each performed for faculty and students? Carl surmised, "There’s no way you can actually ah account for everything. The cultural difference, the language difference, the political differences, all mean, don’t be surprised at a surprise. How you deal with that then becomes a a critical thing and if you don’t have personalities and people, this is where people become the most important thing."

Regarding success, Carl felt that could not be measured until six months following the return of the students. His main interest lay in "what would the students be saying then? ...How have they changed? What have they… are they thinking about for their future education and careers now? What do they think about teaching?" Like others, he focused on project success in terms of student experience, growth, and long
term impact. In addition, he also wondered if the VFT members would continue to collaborate on future projects. In the final analysis, Carl felt "there has to be growth from your point of view and what did you gain from this, from your own cultural multicultural perspectives and ah higher education understanding from higher education."

Dr. Ben Gabriel

*Note: This interview took place on 1_18_05 in a Benton’s hotel in Campos, BR. Ben arrives a few minutes late having rushed in from meeting with students completing field course projects. We briefly chat about both of us having bronchitis, noting that it is easy to get sick when living and traveling abroad.

Having entered the project late, Ben could not recall specifically stated goals of the original grant submission. However he did feel that the apparent project goals were: "one: to experience and appreciate differences in outlook and perspective of various cultures, other peoples, and ourselves how we view the world and our experience and others’ experiences and, two: how technology can be brought to bear on these issues to enrich interactions across cultures and increase appreciation and understanding, and three: I suppose learning fits in there but that’s sort of implied in all of that." To extrapolate a bit further or at a higher level, the broader goal was to find "ways in which we can create a certain synergy across cultures to address challenging problems and circumstances in the schools." When asked how those goals meshed with his personal work goals, Ben there was a high level of match. His work includes: "developing better leadership through systematic database decisions" including: international education, technology integration comprehensive school evaluation and reform efforts, and improved instructional practice" especially as relates to children and families at risk. For his department, the project was one of many and because the budget was low, Ben considered it "a lose leader." However, the students have brought much to his center; he laughingly claimed that "if we were to remove all of the funding from this project, we would still want to do it." Ben had long had an interest in Brazil, speaking Portuguese and having completed his mission there as a young man. WSU had previously applied for a FIPSE/CAPES grant but had been unable to align partnerships. A chance meeting with Dr. Bruce Benton at a time when the project needed a new American partner university brought WSU as a late addition.

Ben remembered events of the exchange clearly. During our interview, he recounted selected events as illustrative of the kinds of goodwill, learning, and cultural impact which had occurred during the course of the major exchange period. His first story was about a Brazilian exchange student, Emilio, traveling to and from WSU and a rural school for his field service. Limited bus schedules for traveling the 15 miles one way caused the student to arise very early in the chilly mountain mornings and to arrive at the middle school one hour before opening. Guy Jones, the WSU field course instructor, happened to live near the bus stop and the middle school, so he offered Emilio breakfast on these mornings so he could have a warm place to await the school day. According to Ben, Emilio would "get off the bus and go over to Guy's home and he’d have breakfast and then just spend the morning with Guy and his wife and his children and then he’s go over to school to work on his on project and then he’d catch the bus and
come back." Thursday, the day for Rui's multicultural class meeting in HorizonLive, Emilio delayed leaving the middle school and missed the return bus. "...In the middle of nowhere surrounded by mostly um corn fields and dairy farms, he's sitting at this little park bench in a town that has about 1500 people and he opens up his computer and discovers, my gosh there's a wireless signal here! And so he pulled out his headphones and microphone and pulled in and he's sitting at this park bench in the middle of nowhere communicating with students [at USS] and a couple of locations in Brazil and he's carrying on this conversation with these people as if he's sitting next to them and he is a world away from them in every different way you can imagine being a world away." For Ben, this incident captured his imagination about the project, saying, "it just seems a fun idea to think about all the possibilities."

We were briefly interrupted by Dr. Bruce Benton with information on dinner arrangements. Ben took the opportunity to ask if we could finish the interview quickly so he could get back to one of the field course schools.

When asked about collaboration, Ben remarked that there isn't ever "enough communication and collaboration." Given the time, distance, and technology limitations, Ben felt the project managers had "done remarkably well across the project with the amount of collaboration we had. I think we'd have done even better if we'd had more, if our communication had been more regular. I don't think that there is a substitute for face to face communication." According to him, other forms of communication help bridge the space and time between face to face meetings where we could accomplish a great deal more as a group. In his opinion, even video conferencing was less effective but he recognized the price for in person meetings is always high given the time and money for travel. Ben was the only PI who actually lived and worked at two sites, Ephraim and Campos during the major exchange. Remarking on the experience, he said, "There's no substitute for that. I don't care how many video conferences you have." The PI meetings in person were "critical" to him and he felt there could never be enough of that kind of collaborative shared time. "We could have profited from more of that but you do what you can with the resources you have." According to Ben, the sheer volume of information shared in personal meetings could simply not be conveyed in "two dimensional" video conferencing. "It's an issue of information. It's about volume of information."

Ben also took the opportunity to bring his wife and daughter with him to Campos for his four week stay towards the end of the major exchange. Neither his wife or daughter spoke Portuguese so, Ben often acted as interpreter for the two. As an additional project, Ben created a live link between his daughter school and a local Campos school. Discussing this reminded him of another touching event during the project. Taking his daughter, Natalie, with him, provided her with great opportunities to view Brazilian schooling and to make friends with local children even though she had limited language ability. And the children also loved Natalie as well, asking if she was Britney Spears because of her blonde hair and fair skin. One young girl took a special interest in Natalie and after an extended conversation (interpreted by Ben), the young girl gave Natalie her own earrings as a gift. Natalie was touched and did not know how to respond. As they were walking away, Natalie realized she did have something from the US with her. "She had this silver bracelet that has her name on it and ...she went over and grabbed the girl by the wrist and she put this bracelet on her wrist and I mean that's cool." Personal contact during the project was especially important for Ben.
When asked about project success, Ben affirmed, "it’s an overwhelming success." It afforded him a chance to get to know the WSU students better, to get involved in Brazilian schools, and to bring his family for an opportunity to live abroad briefly. Making an effort to contact some of the UER exchange students' families, Ben drove 40 miles from Campos to Camila's home. He described them as "salt of the earth kind of people." He wanted to give them news of their daughter's ongoing experience in the US and reassure them that she was doing well. The time they spent together was "priceless," in his words. In addition, Ben and his family were able to share time with Emilio's parents as well as others. To Ben, the entire stay was "rich all the way around." As we ended our discussion, Ben explained that he appreciated the structure and dedication that Rui and I had offered with our dedication to the project despite the small budget tied to it. He was also thankful that the initial PI from WSU, Pete, was taking a sabbatical which allowed him to be so involved in the project.

As he rushed back to the schools to assist with another field project, Ben invited Dr. Benton and me to visit his apartment later that evening to watch a video conference connection between two schools being coordinated via his personal computer. Benton and I did attend that meeting with Guy coordinating on the US side. Several students were at the apartment as well as Ben's wife and daughter. It was focused but high spirited atmosphere as students were hurriedly trying to complete their field projects with Ben's assistance.

Guy Jones

*Note: This interview took place via Skype (VOIP) on 12/02/05.

When asked if he remembered the original goals of the grant project, Guy simply replied "no." He explained that he was a very late addition to the project, basically being hired by Dr. Ben Gabriel to teach the field experience course for WSU. Guy was able to get some background from Mark, who had worked on the project the previous year as an assistant to Pete Clarke, the initial WSU project coordinator. As he saw it, Guy used the field course to give the exchange students the best explanation of how technology is used in US education. He was able to surmise the thrust of the project was about multicultural education and student experience in schools. But in fact, Guy felt he was at "a disadvantage because Ben had all of your contacts as far as you folks… through your email and your personal visits and I wasn’t privy for any of that information." When asked if the project aligned with any of his own research or previous personal goals, Guy could not think of a distinct connection. However, during the course of his involvement, Guy felt his personal goal was "to give them [the UER students] the breadth of experiences from a lot of different schools, a lot of different classrooms, explore a lot of different topics, so I was just trying to give them a good grasp of the schooling system."

To Guy, his first important task was to establish a good working relationship with the Brazilian students. He felt this relationship served to break down barriers and to build trust so he could work successfully with each student for the best learning experience while visiting WSU. To encourage that relationship growth, Guy took the students on various field trips for fun, such as boating and visiting local sites of interest. Later they visited schools of various sizes and types together. Although Guy doesn't teach as a regular part of his position at WSU, down-time and experiences allows him to build positive working relationships with other WSU employees in his center as well.
Having experience in education and grant writing before coming to WSU, Guy had a wealth of information about teachers and US education. Combining this knowledge with the systematic study of school performance at the center, Guy developed a framework of eight concepts for his field course. This framework included: planning and preparation, student information systems, professional development with technology, communication via email and the Internet with parents and colleagues, collaboration via technology with peers, assessment via technology for decision making and student progress, and lastly, assessment of instructional delivery. His own research extends that list to include the combination of communication and progress which he calls "instructional augmentation." To further enrich his field course, Guy used visiting experts and field trips to round out the course and providing additional voices and experiences to anchor the framework. Lastly, he included critical readings on educational technology giving both the positive and negative sides to the uses of technology in US schools as well as promoting critical thinking among his students.

Despite pairing some of the student projects between the various sites, Guy's knowledge of the other field courses was "very superficial." Having heard from Guy, Dr. Ben Gabriel, Dr. Maria Oliveira and others that there were regular video conferences between WSU and UER, I probed for additional information. Guy explained that the plan was to have weekly video conferences and he was involved in the first two or three, but Ben had a great deal more. For the meetings he did not attend, Guy said, "I wasn’t privy to everything that went on with those." Also, once Ben arrived in Campos, Guy explained, "I kinda dropped off the scene all together because I assumed um….he picked up the ball with them." In fact, Guy did have a number of video conferences with WSU students during the course of their projects at UER, but he wasn't involved in many virtual management meetings with Ben and Maria.

The first video conferences with the exchange students were in response to their concerns and frustrations in the UER field course. Communication with UER was complicated for some time because they could not get their Poly-Com system to work. Once Ben and Guy had UER in an iChat session while the other three sites were connected via video-conferencing. Discussion had to be repeated for Maria Oliveira to understand. Guy explained, "it was real hard to hear." At the same time I was pushing for greater coordination between the various field courses from Muricema. Guy noted, "of course you [Jo] were a part of facilitating that and bonding that from the other side which I think was one of your important issues and pushing that from the other side." Guy felt it was important to develop a relationship with Maria as another field instructor; that done, which encouraged her "to see how we could mesh the two [courses]." The result of the video conference meetings with the Campos students was that WSU and UER exchange students connected their projects and students were happier with their progress in the field course. Guy remarked that the additional coordination between field courses was "critical" and kept them from being "discreet" and isolated from each other. The video conferences allowed us "to get the students together and push the projects."

Reflecting on the experience, Guy thought it would be helpful in the future to be more "prescriptive up front" with more guidelines on the collaboration. He felt the VFT began with grand goals "to make a difference in the world and that these collaborative projects are going to be real meaningful and then you end up having to deal with convenience and the fact that you can’t always get teachers to cooperate in the way that
you want them to and you don’t always have access to the classrooms you want to and universities go on strike and the holiday falls in the middle and the time differences between the two places and so you just try to do what you can to the best of your ability..." Guy had his students spend a great deal of time on the front end planning their projects before implementation and felt that it was necessary. Ultimately, he felt that the pairing of projects between the two countries was quite "a difficult thing to pull off."

When asked to elaborate on the meaning of "prescriptive", Guy explained his main concern was "quality control" and given his other demands on the job and otherwise, he was constantly concerned about not having adequate time to stay on top of all the student projects. This was even more of a concern with students who were paired with unresponsive teachers. In fact, Guy felt my position in Brazil was enviable because he saw it as the entire focus of my work. "You had an advantage over me, because I have a full-time job here and, well at least I perceive it, you have an advantage, and so I was trying to do my full-time job and all my other stuff and then Ben left half way through the semester I had to pick up everything he was doing as well and...so at least when Ben got there [Campos] he helped to take up the projects on that end, but I think when you were in-country and this is one of your projects, I had the feeling that you could spend more time being interactive with the students than I could." Guy also assisted by setting up the equipment and coordinating additional video conferences for Ben, beyond helping with exchange student projects. At times he did not know the reason for the video conference but he lived nearby and simply did a favor for Ben by taking care of the technical aspects at the US school.

Being practical, Guy did not envision the project as a chance "to change the world." Instead, he saw the benefits of the project as accruing to the students to be used in individual ways. He likened it to his own experience as a young man in Costa Rica. He had the opportunity to live abroad and see the world from another perspective. He tried to communicate to the Brazilian students, "You are not going to make a difference in the world. But you are going to make a difference to some of the people who interact with you and you are going to make a difference in your own lives because you are going to go back to Brazil and you’re going to have perspective of the world that a lot of your fellow Brazilians don’t have, because they haven’t traveled out of the country, they haven’t seen things from a different perspective....those are the strengths you take back, ...then you will go on and make a difference in the world based on a conglomerate of your experiences in life and this is just one of them…it’s an excellent opportunity for you." For Guy, the entire project focused on making a small difference in perspective, then allowing the student to use that perspective to change his/her own life. In addition, he was convinced the Brazilians' language skills improved markedly and that would give them a competitive advantage in their future careers.

When asked if there were differences in educational philosophy between himself and the other field instructors, Guy replied, "I don’t have much of a relationship with these individuals. I mean, you’re the best one I have and I can say our communication was sparse at best." He went on to explain, unlike the others in the grant, he never met any other members of the VFT in person, therefore he had no opportunity to build a relationship. However, Guy did feel he had built good relationships with the UER exchange students because he had spent face to face time and had worked collaboratively together.
Guy did not feel confident making suggestions for future implementations of similar projects. "I'm the only one out in the cold but, um, I didn't know," he said. He assumed that the rest of the VFT had a much better grasp of the project goals and expectations. From his point of view, Guy suggested a great deal more planning prior to future virtual collaboration. Despite all the frustrations and difficulties in communication and timing between the sites, Guy was quite pleased with the student projects and the final presentations put together by the students.

Dr. Cadu Oliveira

*Note: Interview took place 12/9/06 via MSN chat - text only – based on participant request.

When asked about original grant goals, Cadu did not remember them at all but admitted he remembered his own expectations. They were "to: a) create opportunities for my students to understand the world from a new perspective; b) open their mind(s) for post-grad studies; c) open opportunities for my colleagues (at UER) and for me to create new links and relationships, and d) make new friends and extend my campus to USA too... become "global" instead of "local"." He felt that his expectations for the students were met "totally". But when it came to his personal goals and those to expand the global connections of his university, the Brazilian grant funding was drastically cut, making this part impossible.

In addition to the added complications of funding cuts, the Brazilian funding agency, CAPES, required a great deal of paperwork. Even as late as December 2006, Cadu was spending hours completing paperwork for the university administration. He lamented, "Paperwork + paperwork...I'm tired!" UER was unique in that Cadu and his wife Maria worked as a team to support the grant. Cadu also runs a computer and information technology lab on campus which generates money for special projects. On many occasions, they diverted funds and resources from the lab to help UER students as well as arriving exchange students. The budget cut created difficulties on many levels, and it was a disappointment that the personal development benefits were low while the frustrations were high. He reflected, "The benefits to me and other professors involved were low... The ROI was low! For me and Maria, it is ok, because we have funds from companies at [the lab]... But, could you imagine if not?" There were uncovered expenses for air travel, restaurants, hotels, and the Oliveiras even paid students' fees for TOEFL testing and more.

When asked about collaborating with other VFT members, Cadu recalled our first meetings in Miami, the planning sessions, and outlines of the projects with Rui and Bruce as not only good but "smart". On the down side, he felt that the loss of an earlier Midwestern partner university was a huge disappointment. In addition, even after the major exchange, Cadu did not feel as though WSU understood the "operational plans" of the project, coming in as a late addition. Remembering other positive moments, he mentioned Rui's visit in the fall of 2005 as a very positive result. Specifically, the plan he created with Rui on "how to create "new courses" to accomplish the goals of project and at the same time that skip the UER restrictions was a good example of interaction to "do something" to help others, you to "make a difference"." He asked, "Can you see: people being here are good moments?" In Cadu's perspective, working at a distance is
strained and the link between parties is weak. "You don't laugh, you don't feel the people..."

Added to the coordination frustrations which preoccupied the Oliveiras before the major exchange, when the WSU students arrived, they were faced with teaching all three required courses themselves. In fact they had to do it each time students were exchanged. This frustration was exacerbated by the withdrawal of a WSU graduate assistant. Plans changed frequently when working with WSU and Cadu was left making arrangements with administration and then having to withdraw the same courses when students were cancelled. Not only was it additional work, but Cadu was concerned that he was losing favor with university administration over the confusion and frequent changes. For the additional course load, Cadu was able to use his own graduate students to help teach; however, Maria had to handle the additional teaching herself. It was a stressful period for the Oliveiras.

When asked if there either had learned or gained anything from their work with the project. Cadu replied: "a) do not trust CAPES; b) how to make an agreement /addendum; c) how an American university works; and d) what is the fall semester." He felt the most important concept was how American universities work, that is the structure of the semesters, credit hours, transfer credits, graduate studies, and the style of the classes. Despite all the concerns, Cadu adamantly proclaimed, "The next project we will run better!

Success in the project for Cadu would be to have the students think well of the project and the individual universities who have participated. He exclaimed that he knew that for his students, the project was "a big success!" As of the time of the interview, a late point in the project, he only wanted his students to reap the benefits so that their career opportunities might be improved due to their language abilities, their potential for graduate school in the US, and connection with US institutions. For the team, Cadu felt the greatest benefit was to the American faculty. "It will help you, the Americans. You need be understood!" Overall, he felt the project had created goodwill between Americans and Brazilians and hoped that that "tenderness" in the world would have a lasting impact.

After the interview questions were completed, we chatted for some additional time about possibly visiting each other in Brazil and the US.

Dr. Maria Oliveira

*Note: this interview took place over the course of two days being split up by other events during a faculty visit to the Campos site. The interview began on 11/17/05 at the Oliveiras business office and was concluded the following morning on 11/18/05 at their home. The interview was conducted in a mixture of English and Portuguese.

When asked about the original project goals, Maria admitted that while she met VFT members in year two of the grant and agreed to work during the exchange teaching courses, she did not actually know the goals of the grant project. In fact, her husband, Cadu Oliveira, was the principal contact at UER for the project. Another complicating factor was that early in the project her English was weaker and she did not grasp what most of the partner discussions were about. Maria said, "the goals for me were to promote the exchange in the use of technologies with teachers and students and American
students, to promote... more, larger knowledge about both cultures, to know better the
functioning of schools in America, and both students in general." Personally, Maria
wanted to know more about online learning, commenting, "I was interested in learning
more about this. I bought those. *Eu comprei isso.*"

We were interrupted for several times during the interview. First we had
discussions about the buses and costs and tickets for Bruce Benton and myself back to the
Sao Paulo airport from Campos. We decided on a *leito* bus for 85 reias per person.

When asked about her personal goals, Maria reiterated that she wanted to learn
new educational tools. For example, when the VFT began using video conferencing, she
was intrigued and wanted to learn about this method of communication as well.

We were interrupted again - someone wanted water. Maria, mumbled, "meu deus,
see the blue cups, we have it." Dr. Benton entered the room and began puttering about.
Maria asks if he was able to get the tickets for the *leito* bus.

I needed to meet with students online to facilitate their collaboration. I asked to
use Maria's computer and could not follow everything going on in the room. We began
chatting with Benton about the cultural identity project and how it dovetailed with Lucia's
Master's thesis in the Department of Romance Languages. Despite early talk of doing
several video conferences, this student project team had yet to get together online, much
less get their schools together. At the time, there were only two weeks remaining in the
semester. In addition, Thanksgiving holiday fell in those two weeks. I had been out to the
partner Brazilian school several times so that the students could test their connection
between the schools' computer labs and still nothing had happened. Rich wandered in,
hearing the conversation, hopes they do not have any firewall issues with of their school
video conferences either. Benton brings up last year's video conference where the Oakley
middle school kids had to be loaded in a bus and driven to USS to attend the meeting.
Benton laughingly comments the kids were mesmerized by riding the elevator. This
resulted in a round of laughter among VFT and a a brief discussion ensued regarding
relative poverty in the two American sites.

Cadu entered and busily ran about the office and that night he had a business
presentation. Maria was also busy, needing to write a paper overnight. We discussed
going to get the bus tickets again. I met with the students briefly online still concerned
that the firewall hadn't been tested and the connection might not be made. Ben and Bruce
were getting restless that we needed to go buy the bus tickets so I finished my IM session
with the students though I made no headway in convincing them they had pre-test the
connection between schools before scheduling a live chat because of firewall issues.
Maria took a copy of the questions home to answer on paper before our next interview
session.

11/18/05 - Interview Continued

On my arrival at her home, Maria presented me with four pages of handwritten
notes answering my interview questions. We began again often referring to her written
answers. She had requested this to allow her enough time to consider them and translate
any words she did not understand.

Maria still does not know the goals of the project but she remembers exchange of
faculty was important. Her personal goals were to better understand and use new
technologies in education, such as wikis, video conferencing, HorizonLive and blogging.
She was able to use them somewhat during the project but still wants to learn more. The
beginning was "swimming in problems" for her. She was too busy and did not have time to learn all the new technology and keep track of other classes.

A complicating factor throughout the semester was her language skills; the field course wiki was in English and she did not understand it. [Students from UFN were supposed to translate into Portuguese but this never happened.] "The limitations of language was terrible for me," recalled Maria. She tried to encourage the WSU students to use the wiki but they did not want to. According to Maria, "this was ugly and touchy subject." In general the WSU students had no background in education. Maria felt they needed "more experience in schools and more motivation to work in the schools." Also in class, they were "not very dedicated to the homework, the theory of classroom teaching, collaboration on the wiki, or to lectures." While she liked the students outside the classroom and began to consider them as friends, inside the classroom it was a sometimes very frustrating relationship.

Maria began teaching the field course as she teaches the Intel™ Teach to the Future (TTF) course thinking she had projects in the schools with this curriculum and she would link the students to her existing projects. However, the students did not like the TTF curriculum and this became a problem. In addition, she had scheduled the course from 2:00 to 6:00 pm. One again the students like not it, causing a shift. To address this problem, UER and WSU began having weekly video conferences alone without USS or UFN. Originally, I thought Maria was in attendance each week but she classes she only attended twice. Perhaps they had more meetings but Maria only recalls two in October. With the assistance of Mike, a leader among the WSU students, Guy and Ben changes were made appeasing the students. For example, Maria's field class was originally scheduled to meet 2 pm until 6 pm one day a week. Then it was changed from 5 to 6 pm two times a week. Maria recalled she trying to get the students to understand the Intel methodology yet again, when Mike drew a diagram on the board. She was able to make corrections and "and finally they understood what I was trying to do with the Intel methodology!" That methodology is based on Problem Based Learning (PBL). It includes: "objectives; processes in the classroom with students; different strategies; and evaluation (or assessment)," according to Maria. After this event, the students were more engaged, their work improved, and their questions were much more pertinent.

With these changes and the anticipation of Ben's arrival in early November, the students seemed to settle down. Some problems did remain or resurface from time to time. Maria lamented, I was alone! Solzinho! In the schools, the WSU students complained that the teachers were not excited to be working with them. Maria readily agreed that sometimes the teachers worried about taking on additional projects and becoming overburdened. But she struggled on and "in the end there were enough teachers" and they were generally very helpful. Despite all the frustrations and challenges, Maria struggled on alone coordinating and teaching the WSU students. With communication with Rui, Maria arrange for the students to take tour of a private school so that their experiences could be discussed from all the sites during the multicultural course. She was sorry she had other commitments and could not go with them on the tour. When Ben arrived there was a flurry of activity to push the projects through the implementation cycle. According to Maria, he did a great deal to coordinate the student projects. These included the cultural mirror project, the sun dial project, and the school newspaper. Looking back and considering all the problems, Maria felt the source of the
disconnect was that the students were not dedicated to the project and not motivated "in technology and education because it was not their area of study." In fact, it seemed many of them were so bored by the theory that they just "wanted to sleep."

In weighing the results, Maria thought it was a "big success was for the students of WSU and UER - a rich experience for them and definitely worth it!" For her own part, she would like more interaction with the other partners to learn more about their use of technology in education. For changes and improvements, Maria suggested improved communication. While communication was always an issue for every site, it was particularly difficult in Campos because their video conferencing equipment did not work until October. Also, as mentioned before, our VFT meetings tended to be in English with brief translations by Ben, Leão or Rui for those who did not speak English well. Maria preferred face to face communication. She explained when you are face to face, people are "more obligated to communicate." Maria sadly cried, "Distance was a wall --- was THE wall!"