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Social capital influences upon Internet usage of rural Guatemalan English teachers for professional development

Douglas Hudson Tedford

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2008

ABSTRACT

Social Capital Influences Upon Internet Usage of
Rural Guatemalan English Teachers for Professional Development

by

Douglas H. Tedford

M.S.Ed., University of Southern California, 1992
B.A., University of Southern California, 1987

Doctoral Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education
Administrator Leadership for Teaching and Learning

Walden University
December 2008

ABSTRACT

This qualitative study examined Internet usage by Guatemalan English teachers in the rural, indigenous community of San Lucas Toliman, to improve enrollments and persistence in online teacher professional development programs promoted by the Fundación Rigoberta Menchú Tum. Woolcock's concepts of bonding, bridging and linking social capital were united with Rogers's theory of perceived attributes to ascertain why only 5 of 34 teachers completed free online coursework. Research questions addressed teacher concerns about using the Internet, teacher satisfaction with Internet resources, and social influences upon Internet usage. The participatory rural appraisal (PRA) method was employed using a culturally-sensitive native speaker to interview 20 teachers selected in a purposive sample. In accordance with PRA analysis procedures, representative interview statements were sorted, prioritized and discussed by a team of 42 community educators to generate findings. Findings indicated that interest in engaging the Internet and receiving specialized introductory support (bridging social capital) in groups (bonding social capital) was high. Findings also indicated that salary level (linking social capital) and family time demands (bonding social capital) were barriers to attending a community technology center or Internet café. Findings reinforced the community's support for the design of online coursework leading to salary points and college credits. This study has positive social change implications by demonstrating how organizations can promote community-driven research collaborations to facilitate teacher Internet usage in San Lucas Toliman, and could be replicated in other remote sectors of the developing world.

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DEDICATION

This study is dedicated to the enhancement of online teacher professional development in rural Guatemala. It was motivated by missionary service experiences in rural Guatemala and by involvement, since 1988, in Spanish-bilingual classroom teaching, teacher training, online mentoring, adult literacy, and educational product development, with supervision in Mexico and Central America. This study would not have been possible without the encouragement and support of my wife and three daughters, who are fully dedicated to its underlying purposes, and who provided countless hours of service to the San Lucas community previous to, and during, the interview phase of the study.

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SECTION 1:

INTRODUCTION TO THE STUDY

Introduction

In the developing world, “without the collaboration of governments, international organizations, social movements and the private sector, the Internet is as likely to deepen the gulf between rich and poor as to bridge it” (Koss, 2001, p. 75). The *digital divide* describes inequalities in opportunity for use of the Internet and related computer technology, based on socioeconomic status (Attewell, 2001; Natriello, 2001; Rogers, 2003). The divide is wider in developing nations (Leavey, 2003; Rogers, 2003), where infrastructure for connectivity to *Information and Communication Technology* (ICT) is less prevalent, particularly in rural sectors (Hung, 2003; UN Chronicle, 2000). Buying power also stratifies the quality and availability of technology and materials (Rutherford, Gillespie & Richardson, 2004). Designed as what should be a gateway to vocational and socioeconomic progress, teachers in rural sectors of developing nations do not have broad access to the Internet, a portal to a myriad of human and electronic educational resources (Jung, 2005; Proyecto Educativo de Latinoamerica y el Caribe, 2004; Randolph & Krause, 2002).

Freinet’s *Mouvement de l’École Moderne* utilized the postal service to create educational connections between classrooms in developed and developing nations (Acker, 2000; Sayers, 1990), and thereby, similar to the critical reflective dialogue enjoined in Freire’s *praxis* (Freire, 1971; Hasbrook, 2002), encouraged mutually-transforming interchanges between teachers of varying cultures and knowledge bases.

The Internet has been used to render a similar effect for teacher professional development, due to the increasing availability of online educational degree programs in developing nations (Laferrière, Lamon, & Chan, 2006). Harvey and Klopfenstein pointed out that in the developing world, innovations typically favor elites, with only symbolic benefits for the poor, who lack buying power (Harvey & Klopfenstein, 2001). Connecting teachers from rural sectors of developing nations to online professional development networks empowers them to contribute, in more and better ways, to the vocational and socioeconomic development of communities (Jung, 2005). These teachers are opinion leaders in their communities, and linking them to online professional development resources represents the potential for empowering them as change agents for the diffusion of online learning within remote sectors of the developing world.

Governmental, nongovernmental, and intergovernmental organizations have prioritized the creation of e-learning opportunities for low-income sectors of the developing world (Agency for Educational Development, 2007; International Bank for Reconstruction and Development, 2008; International Development Research Centre, 2007; United Nations Educational, Scientific and Cultural Organization, 2003), and efforts have included programs for indigenous populations of Latin America (Ajb'atz' Enlace Quiché, 2007; Fundación Rigoberta Menchú Tum, 2007a; GLOBE Program, 2007). Advances in regional, continental and intercontinental trade in the Western hemisphere have made ICT access, ICT literacy and English proficiency essential commercial skills for developing job markets in the business environment of the Americas, in which English and Spanish dominate as the languages of commerce

(Barshefsky, 2002; Douglas, 2006; International Bank for Reconstruction and Development, 2005; Laferrière et al., 2006; United Nations Educational, Scientific and Cultural Organization, 2008). These realities encourage Latin American governments to facilitate and fund ICT access for, among other objectives, improved educator training in rural areas (Ajb'atz' Enlace Quiché, 2007; Agency for Educational Development, 2007; Creed & Joynes, 2005; International Development Research Centre, 2007).

Teacher professional development through online distance education should include access to resources for the learning and teaching of English, in line with new policies set forth by many developing nation governments, including Guatemala, which encourage the learning of English at all grade levels (Dirección de Calidad y Desarrollo Educativo, 2006). In line with Guatemala's national vision, the Ministry of Education (MINEDUC) has collaborated as a government entity advocating for projects which promote the long-term development of ICT literacy of the nation (ITFORCEGT, 2006; Ordoñez, 2006; United Nations Educational, Scientific and Cultural Organization, 2008, ¶ 2). Similarly, non-profit organizations such as the Fundación Rigoberta Menchú Tum (FRMT), named after the Guatemalan 1992 recipient of the Nobel Peace Prize, aim to extend equal educational opportunities to all indigenous people in Guatemala and throughout Latin America (Duque Arellano, 1999), including development of online educational opportunities for teachers in remote, rural sectors (Menchú, 2007).

The socioeconomic development of rural Guatemalan communities, where local leaders seek increases in international tourism and trade opportunities, is a priority shared by intergovernmental organizations such as the International Bank for Reconstruction and

Development and the International Development Association (Fazio, 2007; International Bank for Reconstruction and Development, 2006). The promotion of online learning of English and English teaching pedagogy for Guatemala's rural teachers can accelerate and enhance this process. The diffusion of online teacher education resources for the learning and teaching of English in rural Guatemala supports the enrichment of trade and tourism and of access to higher education, all of which can increase prosperity and the quality of life for hundreds of thousands of individuals. Non-profit organizations such as the FRMT advocate for increased professional development opportunities for rural Guatemalan teachers (Cifuentes, 2007; Fundación Rigoberta Menchú Tum, 2007b), for many of whom English represents a potential third language. In much of Guatemala, Spanish is a second language, and 23 Mayan languages are commonly spoken in what is the only principally indigenous nation in the Western hemisphere (Central Intelligence Agency, 2006). Actively promoting improvements in the education of indigenous peoples in Guatemala and the Americas, the FRMT collaborates with local and international entities, such as non-profit organizations and universities, to make the Internet a source of professional development for teachers and of socioeconomic change for indigenous communities (Menchú, 2007).

The term *social capital* is generally agreed to be norms and values transmitted through social networks (Alsop, Chase, & Owen, 2003; Dudwick, Kuehnast, Nyhan Jones & Woolcook, 2006), is identified in literature of intergovernmental organizations as essential for improving the welfare of rural developing nation communities, and ties the establishment of ICT to this process (International Bank for Reconstruction and

Development, 2007a). Social capital bears multiple definitions (Sabatini, 2007), and although Coleman inferred that the definition of social capital may be molded to the phenomenon for which it is employed to describe (Coleman, 1988), Lin suggested that under all circumstances its presence within social networks is a given (Lin, 1999), as “resources embedded in social relations” (Lin, 2001, p. xi). Social capital suggests a context for understanding needs for guidance to overcome barriers to the use of the Internet, as provision of the apparatus of Internet access does not guarantee usage (Crump & McIlroy, 2003; Foth, 2003).

Norms represent resources such as knowledge, values, trust, reciprocity, guidance, or expectations which can lead to collective action or which can impede personal initiative. Social networks constitute the medium by which norms are diffused. Resources transmitted within peer social networks are characterized as *bonding social capital*. Resources originating from individuals in local social networks who have special knowledge or skills because of ties to entities outside the community are considered as *bridging social capital*. Resources emanating from social networks outside the local context are defined as *linking social capital* (Woolcock, 1998; Woolcock & Narayan, 2000; Woolcock, 2002). ICT has been recognized as both a conduit of social capital to, from and within remote societies for the diffusion of ICT usage (Van Bavel, Punie & Tuomi, 2007).

Rogers’s work on the common traits of novices in the use of technology, embodied in his *theory of diffusion of innovations* and his *theory of perceived attributes of innovations* (1995, 2003), has coincided with discussions about how social capital can

be applied for enhancing the use of educational technology (Coupal, 2004; Frank, Zhao, & Borman, 2004), yet never pertaining to the developing world and never detailing its exact influences upon Internet usage. Frameworks for measuring social capital in rural sectors of developing nations, notably the *participatory rural appraisal* (PRA), pioneered by Chambers (1990; 1992; 1994; 1998), featured problem-solving assessment processes to promote the diffusion of social capital for community-driven development of solutions to challenges identified by, and investigated by, rural societies. These sources and related research were synthesized in section 2 of this study.

Problem Statement

Significant bodies of literature have espoused the value of social capital to improve the welfare of rural developing nation communities, including access to ICT resources in the developing world (International Bank for Reconstruction and Development, 2007b; United Nations Educational, Scientific and Cultural Organization, 2003), and the use of ICT for teacher education (International Development Research Centre, 2007; Jung, 2005; United Nations Educational, Scientific and Cultural Organization, 2002), yet, no research has connected the influence of social capital upon Internet usage by teachers in the developing world and a paucity of research studies, mostly qualitative, have contributed a limited knowledge set about teacher responses to online education in those regions (Creed & Joynes, 2005; Lorenzetti, 2004; Trucano, 2005).

Some research studies conducted in diverse locales have addressed reasons for adult rejection of free Internet usage (Crump & McIlroy, 2003; DiMaggio & Hargittai,

2001; Foth, 2003; Selwyn, 2002). Foth attested that provision of a “a community of place,” (p. 14) such as a *community technology center* (CTC) does not guarantee usage and he was not alone in asserting the ameliorative role of social capital as a source of guidance and norm-setting to obtain and effectively utilize ICT resources. Nevertheless, research which addresses the influence of social capital upon any aspect of educational ICT policy making or practice was found to be limited (Lorenzetti, 2004). Kowch suggested this in an interview in which he described social capital’s potential for influence upon ICT for education:

[S]o far the education sector has little to say about (the)... contribution (of)... social capital at... global-levels. Little research is done to provide measures of social capital accretion and depreciation in the education sector... Are we measuring this macro policy phenomenon in distance learning? I have seen no evidence of it... While social capital concepts may seem abstract or disconnected from most educational technology leadership today... technology-enhanced education offers more social capital capacity for our nations than do most sub-fields in education... (Lorenzetti, 2004, p. 6)

Although the World Bank has consistently advocated the application of social capital for improving the quality of life in developing nations (Sobel, 2002), and has promoted the improvement of educational opportunity via social capital, Kowch was accurate in stating that there is “no evidence” (Lorenzetti, 2004, p. 6) of social capital research for distance learning at global levels. Although journal articles and websites have advanced an agenda of interactivity between educators via the Internet, and have suggested the value of social capital for the diffusion of the Internet in the developing world, specific research studies which investigate the contribution or influence of social capital for online education of any sort were not found. This suggested the significance of the proposal outlined in this dissertation.

No literature was found to address interrelationships between social capital, online education or online teacher education, and the developing world. Even when factoring out the concept of social capital, in literature searches regarding distance education in the developing world few studies have been conducted. Both Trucano (2005) and Creed and Joynes (2005) corroborated this notion. Creed and Joynes stated:

In general distance education is an under-researched area and the need for improvement in the quality and quantity of research and evaluation is widely acknowledged... What research exists tends to be strong on description but weak on evaluative data, both quantitative and qualitative, on which to make judgements about effectiveness and this is particularly so in developing countries. What are the reasons behind this? The usual suspects, common to research in any area, are there: poor dissemination, limited research skills and constrained resources which often push research and evaluation to the bottom of the agenda. But there are also other reasons specific to distance education itself. (p. 6)

Consistent with the assertion of experts, very little literature was found which links any aspect of online teacher education with the developing world within the bounds of a qualitative or quantitative research study. Researchers possessing knowledge and interests tied to the socioeconomic progress of developing nations could make significant contributions to the study of ICT for distance education, particularly by applying principles of social capital as a tool for increasing the diffusion of educational technology, and by utilizing techniques which respect non-Western perspectives about decision-making, development, collaboration, and the meaning of education.

While many ICT conduits for educator professional development have been funded and established in developing nation settings, relatively few teachers have participated in these innovations, perhaps due to the remote and isolated locales served or to insufficient funding for instituting programs in more than a few pilot sites. In

Guatemala, examples of ICT teacher professional programs were found to be present (Ajb'atz' Enlace Quiché, 2007; GLOBE Program, 2007), but limited in populations served. In no case, has research to improve teacher Internet usage in Guatemala, or any other developing nation, been identified with social capital research, which bears “powerful implications for distance learning planning (and)... could be the difference... (for) making flexible, predictable distance learning plans...” (Lorenzetti, 2004, p. 2). Social capital research was earmarked for its potential for significantly enhancing usage of online resources for teacher professional development in rural developing nation sectors.

San Lucas Toliman represents a clear example of a site that could benefit from this type of research. Although 34 teachers in this remote, rural region of Guatemala were offered complimentary usage of the Internet in a CTC operated by the FRMT, only 19 were participating to any degree in a free online professional development program. This training had been made available to the local educators by the foundation in collaboration with the researcher over a period of eight months. Only half the instructors were making use of the Internet to retrieve professional development resources (Galvez, 2007). The online professional development resources offered to the teachers free of charge represented one of a few nascent programs for online learning currently oriented directly to rural Guatemalan teachers (Ajb'atz' Enlace Quiché, 2007; GLOBE, 2007), and although the increasing presence of online learning opportunities has been regarded as a positive step, these advances were relatively incomplete without an understanding of why teachers were or were not taking advantage of these resources. In San Lucas Toliman, as

in all parts of the developing world, the potential of social capital to encourage teachers to use the Internet for online professional development has remained unexplored.

Nature of the Study

This qualitative study employed Chambers's PRA approach (1990; 1992; 1994) to identify common assertions of rural Guatemalan teachers regarding the influence of social capital to use the Internet for professional development. Three key types of social capital, namely bonding social capital (unilateral, community-based), bridging social capital (looser societal) and linking social capital (extra-societal, international) have been identified (Putnam, 2000; Woolcock, 1998; Woolcock & Narayan, 2000; Woolcock, 2002), and these distinctions were considered in the analysis of teacher responses. The research objectives were to understand the specific influences of norms within social networks, which teachers of a rural Guatemalan region believed they would need to enhance or dissolve in order to use the Internet successfully to participate in an online professional development program or to rely on the Internet for retrieval of teaching resources. It was essential to recognize "the positive and negative outcomes that social capital can generate" (Woolcock & Narayan, 2000, p. 225), and the researcher designed the interview questions to objectively probe the influences of norms in networks within the three types of social capital (bonding, bridging and linking) upon the designated concerns for adopting technology.

The study interconnected research about challenges for novice adoption of technology with contemporary viewpoints on the relationship of social capital to the provision of ICT in the developing world, by referencing specific issues about the

adoption of technology, in semi-structured interview questions which sought input about the value of norms shared in networks through bonding, bridging and linking social capital. By employing a native Spanish-speaking research assistant as interviewer, the questions were posed in a manner and in a context which depended upon local knowledge and opinions of rural teachers to identify the types of assistance which would best facilitate their Internet usage for online learning-new knowledge which could enhance community dialogue about improving opportunities for teachers to use the Internet for professional development, and which specifically could open the way for the development of an online teacher certification program which could be sponsored by the Fundación Rigoberta Menchú Tum and the researcher at a future date.

Sample

Teachers invited to participate free of charge in an online program of professional development demonstrated four types of characteristics: (a) they participated consistently and completed the course; (b) they participated consistently and quit midway through the course; (c) they participated occasionally; (d) they did not participate. All types of these teachers were interviewed, as depicted in Table 1:

Table 1
Participation Levels of 34 Teachers Invited to Enroll in Free Online Coursework

Number of Teachers	26-Week Online Course Completion	Description of Participation Level
5	yes	consistent
6	no	consistent, then dropped out midcourse
8	no	logged on once or twice only
15	no	never logged on

A purposive sample group of 20 of the 34 teachers was confirmed for participation in this study through the auspices of the Fundación Rigoberta Menchú Tum. Of the 34 teachers who participated in face-to-face training sessions with the researcher in January and July of 2007, 19 were participating in weekly online follow-up classes which were held through May of 2008, including free usage of a CTC sponsored by the Centro Educativo Luciano Pavarotti, which is operated by the FRMT. Of those teachers initially invited to participate online, the FRMT and the researcher concurred in their assertions that some participated consistently and some inconsistently, while some participated only occasionally. Of the remaining 15 teachers, who were non-participants, some declared, according to the Ministry of Education, a lack of interest while others stated that they would have liked to participate, but were unable due to heretofore undisclosed factors.

The researcher used the four-part table shown above to categorize the original list of teacher training session participants. Guided by the research assistant, each participant's name was placed in one of four receptacles, each representing a participation category. From each receptacle, 5 names were randomly drawn, and to these, invitations were extended to participate in the study, to create a total 20 teachers. Any of the five from each category who might reject the invitation were noted and replacement teacher names were drawn, until five invitations were accepted under each category.

Research Questions

The research questions were:

Research Question 1. What past, present and future concerns about the Internet for professional development have these teachers experienced or expected to experience?

Research Question 2. How well did the Internet meet needs for professional development in relation to the grade levels to which each teacher was assigned?

Research Question 3. What forms of social capital levied the most influence for improving the Internet usage of these teachers for professional development?

Research Question 4. How could understanding of social capital influences upon Internet usage be applied to improve participation in online professional development for teachers of San Lucas Toliman, and to what other settings might this understanding be meaningfully applied?

Interview questions posed to the teacher participants encouraged them to address the influences of persons in bonding, bridging or linking social capital networks as barriers or supports to Internet usage, probed for five potential key concerns about adopting technology, referenced by Rogers in his theory of perceived attributes of innovations (2003), and were used for understanding and making decisions, in a community setting, about these concerns and the effects upon choices to use the Internet for online learning. Five interview questions alternatively probed for understanding of expectations about using the Internet for professional development and of social supports experienced or anticipated to enhance Internet usage. In section 3, the researcher considered these interview questions and formulated them specifically. Each interview

was digitally recorded (in Spanish), transcribed and analyzed for evidence of the norms, as transmission of guidance, knowledge, values or expectations within social networks and of Rogers's perceived attributes. The collection of interviews was reviewed for common patterns of responses in a community meeting. These findings were discussed, prioritized and clarified. This process was used to consider implications for enhancing social capital resources in the local teaching community to support usage of the Internet by local teachers for professional development.

Purpose of the Study

This study explored reasons for the consistent use, inconsistent use or neglect of Internet professional development opportunities, in a purposive sample of 20 English teachers in a remote section of rural Guatemala, who were provided free Internet access privileges. The researcher presented questions about social capital influences originating from peer (bonding), societal (bridging) and extra-societal (linking) sources to discover evidence for norms in social networks and for Rogers's perceived attributes of innovations as factors affecting the adoption of the Internet for professional development.

Conceptual Framework

Three key concepts set the parameters for discovery of new knowledge to solve practical problems about the adoption of technology in an unexplored setting. These concepts were factors affecting the diffusion of the Internet in the developing world, Rogers's theories of the diffusion of innovations and perceived attributes of innovations, and the connections between social capital and motivations for using ICT for education by people in the developing world.

Because no studies whatsoever were found to link social capital to the concepts of teacher education, ICT and the developing world, studies which linked these concepts alone were reviewed for indicators about factors which positively or negatively affected participation of developing world teachers in ICT, and that analysis finalized the review of what was known about the phenomenon.

Chambers's approach to capacity building in developing nations, the PRA (1990; 1992; 1994), closed out the review of literature as a substantive qualitative method identified as ideal for research on social capital in those settings. Curiously, although these theoretical frameworks had been used in research to improve the incorporation of innovations in rural communities, they had never been brought together to solve a problem such as proposed by this study.

Thusly, this research established a theoretical groundwork for a new field of study, one of value to the researcher, the Fundación Rigoberta Menchú Tum, the population to be served, non-profit organizations, industry, government, and for potential in-kind and financial donors seeking the wellbeing and progress of indigenous people throughout the Americas. In the case of Guatemala, this research represented an initial step in progress toward self-sufficiency of a people embroiled in a conflict lasting over forty years-a conflict which caused hundreds of thousands of indigenous people, over multiple generations, to progress in isolation-progress now unlimited in its potential for socioeconomic and professional mobility within Guatemala and within a larger, global context.

Factors Affecting the Diffusion of the Internet in the Developing World

Significant differences in usage of the Internet had been noted in comparisons between developed and developing world regions. Latin America's citizens were much more limited in their usage of the Internet than the developing world as a whole (Leavey, 2003; Rogers, 2003). The digital divide, more widely recognized to denote the gap in access to Internet technology, also connoted differences in usage based on a number of factors (Attewell, 2001; Foth, 2003), related to self and other expectations, skill sets and social support systems, to name a few. Political, social, cultural, geographic, psychological and economic factors all played into the phenomenon of accessibility of the Internet for people of the developing world and these were explored in depth within section 2. Specific cultural and social factors affecting the diffusion of technology innovations among rural sectors of the developing world were featured. That section served as a necessary analysis of the context in which individuals in rural sectors of the developing world faced the decision to adopt Internet technology, and the process by which adoption practices diffused within a social setting.

Rogers's Theories of Diffusion of Innovations and Perceived Attributes

Rogers's theory of diffusion of innovations (Rogers & Havens, 1962; Rogers & Shoemaker, 1971; Rogers, 1995; Rogers, 2003) engendered his theory of perceived attributes of innovations (Rogers, 1995; Rogers, 2003). Both theories served to describe the traits of novices in responding to the prospect of adopting new technology or new technology practices. These theories were of significant value to realize the purposes of this study—to enhance participation in online teacher professional development. A

seminal concept of Rogers about diffusion can encourage greater persistence in the process of introducing an innovation:

Getting a new idea adopted, even when it has obvious advantages, is often difficult. Many innovations require a lengthy period, often of many years, from the time they become available to the time they become widely adopted. Therefore, a common problem for many individuals and organizations is how to speed up the rate of diffusion of an innovation. (Rogers, 1995, p. 1)

In this, Rogers has directly addressed a central theme of this study, of how to “speed up the rate of diffusion” (p. 1) of Internet usage by rural English teachers in Guatemala.

The common traits of early adopters of new technology, described in Rogers’s work, provided the conceptual base for identifying needs for social capital, in the form of social networks for norms to use the Internet. Rogers originally categorized the propensity to adopt innovations according to five strata: innovators, early adopters, early majority, late majority, and laggards (Rogers & Havens, 1962). Originally oriented to the improvement of the adoption of technology for agriculture, his propositions have been successfully applied to a variety of technology fields.

His theory of perceived attributes had its roots in a 1971 article which builds on the diffusion of innovations framework (Rogers & Shoemaker, 1971). He divided the perceptions of potential novice adopters of technology into subsequent categories of (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability and (e) observability. In the framework of this study, which explored sources of guidance to influence use of Internet technology through the lens of social capital, Rogers’s theory of perceived attributes served as a tool to discern specific details of the interrelationship between human influences and personal responses to the prospect of ICT adoption.

Social Capital as a Medium of Diffusion

The design of the study was based upon the concept that social capital was an essential resource for establishment of innovations, including ICT resources, in rural sectors of developing nations (International Bank for Reconstruction and Development, 2007a), particularly through norms within social networks, identified by Woolcock, of three varieties: bonding, bridging and linking (Woolcock, 1998; Woolcock, 2002). Social capital literature, found to have steadily increased since the early 1990's to present (Sabatini, 2007), after its reintroduction in professional debate by Bourdieu (1983), Coleman (1988), and Putnam (1995, 2000) was later found to span a variety of fields of study (Farr, 2003; Sabatini, 2007). Lin emphasized the essentiality of equating social capital with its transmission through social networks to obtain resources (Lin, 2001). She also paralleled social capital with the concept of physical capital, used to exchange labor for resources, in that social capital was "motivated by... needs to engage actors in order to access these other actors' resources for the purpose of gaining better outcomes" (p. xi).

The growing polemic regarding the role of social capital for fomenting access and usage of ICT resources in rural sectors of the developing world, included discussions of a reverse effect, that provision of ICT resources increased access to social capital. As both catalyst and by-product of ICT, social capital was this study's natural, conceptual parent:

The increasing pervasiveness of ICTs invites an examination of its impact on social capital. In terms of civic engagement, and contrary to monocausal explanations, ICTs appear to both transform and supplement social capital. In terms of social contact, ICTs can play a prominent role in creating and maintaining a community of practice and facilitating the exchange of knowledge within it. (Van Bavel et al., 2007, ¶ 9)

It could be thus surmised, also, that the introduction of online learning for teachers in San Lucas Toliman would foment the spread of social capital by sharing norms through social networks, and that this phenomenon would positively influence the willingness or interest of other, perhaps more reticent, teachers to consider seeking to participate.

Paradoxically, most literature published about social capital for ICT focused on ways to improve access to technology in rural developing nation sectors, rather than approaches to facilitate usage. Although some literature touched on improving ICT usage by developing world teachers, no research studies were found to examine the role or effects of social capital in that process. Some researchers have contributed to a polemic about the essential role of corollary social capital to foment usage of ICT resources after provision but gave no specifics about how to use social capital resources to resolve the issue (Foth, 2003; Menou, Day & Schuler, 2007). What was discovered was that many potential end users, not only in developing nation contexts, would ignore, reject or devalue low-cost or free ICT access, including access provided through CTCs, and researchers in a variety of settings wanted to better understand why this was so (Crump & McIlroy, 2003; DiMaggio & Hargittai, 2001; Selwyn, 2002).

Putnam set forth to delineate the sources of social capital, and labeled these as bonding and bridging (Putnam, 1995; Putnam, 2000). The World Bank's Woolcock (1998) enriched the differentiation of social capital sources and functions by adding a third form to the polemic, as linking social capital (Woolcock, 1998; Woolcock, 2002). These definitions were valuable to the study by distinguishing the origins of influence

upon Internet usage. Woolcock's (1998) original definitions of the three sources of social capital in networks were described as:

Bonding social capital which denotes ties between people in similar situations, such as immediate family, close friends and neighbours.

Bridging social capital, which encompasses more distant ties of like persons, such as loose friendships and workmates.

Linking social capital, which reaches out to unlike people in dissimilar situations, such as those who are entirely outside of the community, thus enabling members to leverage a far wider range of resources than are available in the community. (pp. 13-14)

These three views of social capital were valuable for the proposed study which distinguished the influential impact of transmitting knowledge, guidance, values and expectations (norms) through peer, local and extrasocietal contacts (varieties of social capital networks) to promote or deter usage of the Internet for teacher professional development. Woolcock's distinctions, forerun by Putnam, provided three lenses for understanding perspectives about the need for these types of contacts to meet typical challenges in adopting ICT which confront novices-a subject which was reviewed in depth in a discussion of Rogers's theories in section 2.

Chambers's Participatory Rural Appraisal for Measurement of Social Capital

Social capital literature included descriptions of ideal, tested approaches to quantitative and qualitative analysis of social capital input and some of these approaches were found to be particularly effective in stimulating community-driven improvements in systems and practices (Dudwick et al., 2006). The nature of these approaches, notably Chambers's approach to the participatory rural appraisal (Chambers, 1994; 1998), and their affinity with specific methodologies, were explored in Section 2 of this study.

Particularly valuable about Chambers's approaches to measuring social capital was his emphasis upon local, group problem-solving of community-identified issues, utilizing methods which at once recorded individual perceptions while enhancing local cultural confidence for building a social consensus for resolution. This approach was especially suitable for measuring teacher perceptions through interviews which were reviewed for signs of Rogers's traits of technology adoption and which integrated with questions seeking a description of the role of social capital as an interactive influence of norms within local, societal and extra-societal networks.

Operational Definitions

Bonding Social Capital: denotes "ties between people in similar situations, such as immediate family, close friends and neighbours" (Woolcock, 1998, p. 13).

Bridging Social Capital: "encompasses more distant ties of like persons, such as loose friendships and workmates" (Woolcock, 1998, p. 14).

Community-Driven Development (CDD): "an approach to development that supports participatory decision making, local capacity building, and community control of resources" (International Bank for Reconstruction & Development, 2007, ¶ 1).

Community Technology Center (CTC): a place where the community may utilize ICT resources at no cost or at a fair cost to the public.

Compatibility: the degree to which an innovation is consistent with a person's or group's values, experiences, or needs (Rogers, 2003).

Complexity: the degree to which an innovation is difficult to understand or use (Rogers, 2003).

Digital Divide: “the gap that exists between individuals advantaged by the Internet and those individuals relatively disadvantaged by the Internet” (Rogers, 2003, p. 468).

Fundación Rigoberta Menchú Tum (FRMT): Foundation headed by 1992 Nobel Peace Prize Winner Rigoberta Menchú Tum, which has advocated for improvements in education and social services for indigenous peoples of Guatemala, and the Americas.

Indigenous: This term referred to a racial characteristic of individuals who are native to a developing nation, present before invasion or conquest.

Information and Communication Technology (ICT): “facilitate(s) by electronic means the creation, storage, management and dissemination of information... (and) a means of communicating... from... networked computers and the Internet.” (Romo-Rodriguez, 2005, p. 4).

Linking Social Capital: a type of social capital which implied reaching out “to unlike people in dissimilar situations, such as those who are entirely outside of the community, thus enabling members to leverage a far wider range of resources than are available in the community” (Woolcock, 1998, p. 14).

Ministerio de Educación de Guatemala (MINEDUC): Guatemalan Ministry of Education

Observability: the degree to which the results of an innovation were visible to others (Rogers, 2003).

Participatory Rural Appraisal (PRA): “a growing family of participatory approaches and methods that emphasize local knowledge and enable local people to make

their own appraisal, analysis, and plans... to enable (entities) to work together to plan context-appropriate programs” (International Bank for Reconstruction & Development, 2007c, ¶ 2).

Relative Advantage: assignment of worth of an idea in comparison to ideas which preceded it (Rogers, 2003).

Social Capital: for purposes of this study, would be limited to its generally-accepted working description as norms within social networks (Alsop et al., 2003; Narayan & Woolcock, 2004).

Trialability: the degree to which an innovation can be experimented with on a limited basis (Rogers, 2003).

Scope

This research was confined to understanding how social capital influences usage of the Internet by teachers in San Lucas Toliman, within a remote, rural region of Guatemala known as La Cuenca. The scope of the study was defined by institutions which provided access to the teachers and free Internet services to complement the study. Findings of the study could be considered in reference to other rural sectors of Guatemala, but was not intended to be transferable to those sectors or to any other setting. However, study of this issue had to begin somewhere, albeit studying a small sample in a remote setting. New knowledge derived from this study was designated to be applied to enhance the success potential of a plan by the Fundación Rigoberta Menchú Tum to offer a free or low-cost teacher certification program for rural teachers of Western Guatemala (Cifuentes, 2007).

Limitations

While this study was an exploration of the perceptions of teachers regarding their Internet usage in a rural sector of Guatemala, the interview questions were designed to specifically gauge their opinions about the role of social capital influences upon their use of the Internet, under the concept of norms transmitted through social networks. Social capital has been identified as a valuable resource for enhancing the welfare of rural communities in the developing world, but has not been the object of research in that context for enhancing usage of the Internet. Although, as discussed, a very flexible array of definitions have been offered for social capital, the researcher limited its description to norms within social networks, as has been cited in the literature. Within that frame, social capital influences upon teacher Internet usage for professional developed was explored for the norms transmitted to support or deter Internet usage through three types of social networks, labeled bonding, bridging and linking social capital.

In line with the chosen methodology, the participatory rural appraisal, a research assistant from Southern Mexico (which borders with Guatemala) collaborated in conducting interviews. Shared cultural and linguistic understandings served to lessen the possibility of discomfort in expressing opinions. The interviews were conducted in Spanish. Additionally, considering that informant responses could be surmised to be altered by their previous contact with the researcher in the role of teacher trainer, measures were taken to distance the researcher from the interviewing process. Although the teacher informants' previous experiences with the researcher as a volunteer trainer might have caused them to acknowledge his perceived interests within their responses,

the researcher maintained a distance from the interview process to diminish the potential for suppression or alteration of answers. Instead, the researcher, for this study, functioned instead as a facilitator of the interviews, conducted by a native research assistant. Even in this role, the researcher was seen as an entity believed to be trustworthy for maintaining the confidentiality of teachers' input, which they might otherwise have been unwilling to provide.

Delimitations

This study only addressed the phenomenon of neglect or low usage of the Internet in rural Guatemala by teachers. The rural teachers to be interviewed all resided in, or close to, the town of San Lucas Toliman, at the edge of Lake Atitlán, in Western Guatemala. All teachers collaborated in an onsite educational seminar facilitated by the researcher as teacher trainer in connection with the Fundación Rigoberta Menchú Tum, under the auspices of the Ministry of Education. Teachers participating in this study were members of a group invited by the local Ministry of Education officer to attend one or both of two teacher training seminars in San Lucas Toliman, sponsored by the FRMT, and led by the researcher, held in January and July of 2007. All 34 attendees were thereafter invited to continue their professional development with the researcher online. Of those so invited, some participated with varying degrees of consistency and some did not participate at all. A purposive sample drawn from these teachers was invited to participate in the upcoming study.

Rural Guatemala was selected as the site of this study due to the researcher's previous experiences working in Guatemala for a publishing company, preceded by

missionary service in rural Guatemala, which included language teaching and translating of the Quiché language. The town of San Lucas Toliman, in rural Guatemala was chosen by referral of the Fundación Rigoberta Menchú Tum. Curiously, Rigoberta Menchú, winner of the 1992 Nobel Peace Prize, is also a native speaker of Quiché (Fundación Rigoberta Menchú Tum, 2007b). In 2006, the FRMT made an agreement with the researcher, as a volunteer, to begin a series of face-to-face training sessions for teachers at their Centro Educativo Pavarotti in San Lucas Toliman, in Western Guatemala. Soon thereafter, an invitation was extended by a coordinator of the Ministry of Education to all Guatemalan teachers from public and private K-12 schools serving San Lucas Toliman and neighboring aldeas, or villages. A total of 34 teachers attended training sessions held at the foundation's school, the Centro Educativo Luciano Pavarotti, at San Lucas Toliman, in January and July of 2007. Teachers provided contact information, and attended an Internet orientation session within the school's computer technology center.

Assumptions

Directors of the Fundación Rigoberta Menchú Tum and the coordinator of the San Lucas Toliman office of the Guatemalan Ministry of Education assured that an open invitation was extended to all area teachers to voluntarily participate in free professional development seminars and online training services offered by the researcher. This invitation served the assumption that at least some of the teacher base for this study was motivated to progress professionally. Directors of the FRMT commented that some area teachers were approaching retirement and might be unconcerned about taking on additional professional development (Galvez, 2007); therefore, another assumption

covered the possibility that not all who attended the face-to-face seminars came of their own will, but under the pall of professional pressure, or due to a mixture of personal interest and precaution against professional sanction for not attending.

Significance of the Study

This study opened up a new field of research which utilized the PRA methodology to build the capacity of a rural community of educators to harness social capital resources for improving teacher engagement of online professional development, and created a standard for the design and implementation of a similar study in any rural sector of the developing world. In so doing, Rogers's (2003) theories of diffusion of innovations and perceived attributes were applied to understand the meaning and implications of the barriers or supports for Internet usage which teachers described, and also marked a first for this type of analysis in a developing world setting.

The study was also unique in that it is the first research study ever to study the interrelationships between social capital, teacher professional development and ICT in the developing world (Creed & Joynes, 2005; Lorenzetti, 2004; Trucano, 2005). Only one such study was found to interrelate these themes, but in a first-world, developing nation setting (Frank et al., 2004). This study contributed innovative knowledge of how a community of educators in a rural developing region of Latin America responded to first encounters with technology.

The results of this study indicated steps for improving social capital connections within San Lucas Toliman and environs via the Internet and among local social networks to enhance teacher usage of online professional development resources. It represented the

first in a series of studies planned by the researcher to ameliorate the effects of the digital divide in Guatemala by improving access to a variety of forms of social capital to promote rural online learning. Although this study's findings were not intended for scaling up to other Latin American rural settings, the findings were potentially applicable for increasing online learning opportunities for indigenous teachers in other rural regions of Guatemala through replication of the community research and decision making process. The study was designed to be employed by the Fundación Rigoberta Menchú Tum to enhance planning for a cost-effective online teacher certification program in San Lucas Toliman, and could encourage replication of the study with other rural teacher populations in Guatemala and in Latin America.

The United Nations Educational, Scientific and Cultural Organization (UNESCO), actively supported the development of new educational initiatives in support of the socioeconomic development of indigenous peoples, and proclaimed 1994-2004 as the International Decade for the World's Indigenous People (United Nations Educational, Scientific and Cultural Organization, 2001) and 2003-2012 as the United Nations Literacy Decade (United Nations Educational, Scientific and Cultural Organization, 2003). In key documents created during the International Decade for the World's Indigenous Peoples, UNESCO and the Fundación Rigoberta Menchú Tum, in collaboration with Países Bajos, postulated that an endogenously-developed curriculum was essential for promotion of self-actualization in Latin America's indigenous peoples (Duque Arellano, 1999; Zapeta-Garcia, Vásquez-González, Pérez, & Alfonso, 1998). In 2006, the Fourth National Conference on Mayan Education (IV Conferencia Nacional de

Educación Maya) held, in Cobán, Guatemala, included discussions of the value of online learning to bring new levels of training and earning power to indigenous peoples in remote, rural settings (Cifuentes, 2007; Consejo Nacional de Educación Maya, 2007). The linkage through ICT of first world entities oriented to developed nation education and training processes with rural, isolated groups and individuals in developing nations was recognized as complex and involved more than development of effective educational technology processes, but included the development of human capability through enhancement of social capital resources between end users, and sources of guidance and support for locally-accessible training and via long-distance training.

The capability approach as interpreted through principles of social capital and developed through the participatory rural appraisal provided, through a teacher-driven guidance process, was a proven alternative to what may be considered culturally invasive research approaches for the improvement of education policies affecting remote, rural school settings in Guatemala (Duque Arellano, 1999; Zapeta-Garcia et al., 1998). However, what seemed lacking from a capability approach, closely related to the concept of community-driven development, was a sense of how the teachers in a local Guatemalan rural community context viewed these policies or possibilities. This project showed the attitudes, goals and concerns that teachers operating in one community, San Lucas Toliman, experienced. Those teachers voiced many of the reasons behind the neglect of the few ICT resources and support sources available in their region and revealed an awareness of ways that social capital is used to supercede or maintain established patterns of living in relation to online professional development.

A study of the perceived technological and social capital factors which supported or impeded usage of the Internet for teacher professional development in San Lucas Toliman filled a void for research to improve the quality of access to resources and mentoring for rural teachers online by enhancing the use of social capital. This study represented research which, although recommended in prior literature, was the first of its kind. While not generalizable, it represented the collected perceptions and recommendations of a community of practice in a small, largely indigenous Guatemalan town. It has already, at this writing fomented action for enhancing usage of online resources in that town (see Appendix B). The structure and purpose of the study could be replicated in other regions in the Republic of Guatemala, and could be replicated in similar ways throughout Latin America and other parts of the developing world.

Most indigenous people of Guatemala were found in literature to be isolated geographically and socioeconomically from metropolitan infrastructures (Patrinós & Skoufias, 2007), including the infrastructure which facilitated cost-effective Internet usage. Guatemala has long been noted as a microcosm of racial and linguistic diversities and representative of the severity of indigenous poverty in the Americas (Fazio, 2007). This made the choice of Guatemala as the site of a study of rural Internet usage as ideal. The support of the Fundación Rigoberta Menchú Tum in the choice of the town where the project was to be realized, and its participation and accord in identifying the research problem, represented the bringing together of unique entities and purposes for the resolution of a pressing problem indicative of the plight in many developing nations.

Guatemala has been recognized as the only principally indigenous nation remaining in the Americas, with 42% of its population speaking one of 23 distinct Mayan-based languages (Central Intelligence Agency, 2006), whose Spanish-speaking governors, landowners and industrialists are, by in large, descendants of Spaniards and Germans who immigrated to Central America in previous centuries (Flores, 1971; West, 2001). This study was of particular import for bringing new educational models for online teacher certification to members of a non-traditional enrollment stratum, representing a new current within the upsurge of online learning in higher education in Latin America, in which the principal subscribers were monied elites, yet where the provision of online learning resources, including opportunities for learning English, has been identified by governments as essential for the progress of the middle and lower income groups (Harvey & Klopfenstein, 2001; Leavey, 2003; Maksakovskii, 2006; Rudra, 2005).

This research might promote interest in duplicating the study in other settings, where a principally indigenous teacher base in rural, remote regions of Latin America seek progress through advanced educational opportunities. The presence of a teacher base motivated to purvey efforts for social justice was known through the writings of Freire (1971) and Freinet (Acker, 2000), who discussed, each in their own way, empowerment through mutually enriching interchanges as an alternative to the isolation and entropy which characterized many nations (Acker); both were precursors to the concept of social capital in that they paralleled the process of using transfer of norms between social networks to effect change.

Findings of this study assisted in the planning of an online teacher certification program sponsored by the Fundación Rigoberta Menchú Tum (Cifuentes, 2007; Menchú, 2007), to be initiated in 2009. The findings of this study also provided valuable evidence for development of strategic plans to seek funding from other foundations, governmental, intergovernmental and private organizations which shared an interest in promoting online learning to remote sectors of developing nations, directly tied to the socioeconomic development of rural Guatemala. The results also appealed to entities currently producing research touching on multiculturalism and indigenous education in many sectors of Latin America and were prepared for inclusion in the first edition of an online academic journal planned by the FRMT for publication online in late 2008.

Transition Statement

By looking at teacher perceptions of needs and challenges relative to the use of ICT and the supportive or detractive influences of social capital, as it affected educational development and was articulated at the local level, a practical, results-oriented perspective was developed by a community of educators through the participatory rural appraisal and based on the role of social capital for online teacher professional development. It was noted as possible that theoreticians, policy makers and researchers would turn to the community level to find out what the overriding concerns of the local teacher community of practice might be with respect to the need for more or better social capital to support adoption of new practices for educational development through ICT. This study described the marriage of individual needs, and interests with those of larger

governmental and organizational form for solving a specific problem in a rural community of Guatemala.

In section 2, the three key theories covering this topic, namely, of the diffusion of the Internet in the developing world, of the diffusion of innovations and perceived attributes, and of social capital as norms within social networks were overviewed and criticized, showing key research studies which addressed each sub-concept, followed by a review of the very limited research available on the subject of online teacher learning in the developing world. The review of literature which informed the topic commenced with a synthesis of research which addressed the diffusion of the Internet in the developing world, followed by a review of Rogers's theories of diffusion of innovations and perceived attributes, and compared to the work of theorists who have addressed similar themes. This discussion of concepts tied to the effects upon diffusion of Internet technology was followed by an analysis of the effects of social capital upon provision and usage of ICT resources to ameliorate the effects of the digital divide. Section 2 concluded with an overview of approaches compatible with measurement of social capital for rural sectors of developing nations, and reviewed some research studies which have employed a specific qualitative methodology—the participatory rural appraisal—and options for activities within this methodology. That review encompassed participatory research methods which have been found to empower communities for self-determination, and made evident a case for application to the current topic.

SECTION 2: LITERATURE REVIEW

Introduction

This review represented a synthesis of professional literature and other pertinent sources of data to ascertain potential concerns teachers could manifest for use of the Internet in a developing nation rural context, and the potential role of social capital, in the form of norms within social networks, to ameliorate these concerns. The concept of social capital has been advocated by the International Bank for Reconstruction and Development (World Bank) as a tool for improving the diffusion of Information and Communication Technology (ICT), including the Internet, in rural sectors of the developing world. By fusing the available literature on these two concepts, the researcher made apparent how research findings coincided or diverged, and specifically enriched the meaning of findings for the rural, developing nation setting of the study, San Lucas Toliman, Guatemala.

Because the teachers who participated in the interviews in the study presented concerns that were consistent with literature which elucidated potential causes of rejection or adoption of Internet technology within social groups, teacher interview responses in this study were thereby examined for the role of sources of social capital as norms within social networks. Responses were also reviewed for inferences about specific challenges for Internet usage as addressed in contemporary literature, and which one theorist characterized as “the second digital divide” (Attewell, 2001, p. 253), or “cybersegregation,” a term attributed to Gates (Attewell, 2001, p. 252).

Organization of the Review

This review commenced with an analysis of sources in economics, sociology and ICT which addressed the factors that have historically prevented the diffusion of Internet technology in developing nations-factors which could potentially influence Internet usage concerns of teachers living in such a society, who participated in this study. After this general overview, the attention shifted to the role of social capital, as norms within social networks, to account for assistance to meet the challenges of Internet usage for teacher professional development. Potential challenges for Internet usage were explored through the lens of Rogers's theories of diffusion of innovations and of perceived attributes of innovations (Rogers, 1995; 2003).

A limited range of related research studies of variable specificity, covering countries of Africa, Asia, and Latin America, including Guatemala, observed elements of teacher online professional development, but lacked a discussion or analysis of any aspect of social capital. An analysis of the participatory rural appraisal (PRA) (Chambers, 1990; 1992; 1994; 1998), a qualitative methodology which has been used for the measurement of social capital in rural developing nation settings, closed the discussion in section 2. Because the teachers participating in this study earned the starting pay equivalent of two hundred U.S. dollars per month (see Appendix A), development of an online professional development system for rural Guatemalan educators would of necessity rely heavily on social welfare investments in lieu of absorption of costs by end users. With this objective, results of this study were found to enable educational decision makers of the Fundación Rigoberta Menchú Tum, and other organizations which support

their efforts, to enhance planning for the introduction and proliferation of such a system, and a follow-up meeting was held in San Lucas, to that end, approximately a month after the study's conclusion (see Appendix B).

Literature Search Strategy

Print journal resources, collected while in graduate studies in bilingual cross-cultural education at the University of Southern California, while working as a missionary in the rural Guatemalan region targeted for this study, and as a teacher trainer for publishing companies in Mexico, Central America, Panama and Colombia, fomented the original inquiry to the topic of how low-income teachers could be provided free or low-cost access to teacher training via the Internet. Journal resources published by the International Bank for Reconstruction and Development (World Bank) led to a general search for academic articles on this topic via the Walden University library of data bases, followed by a review of the resources of other non-governmental organizations. As this subject broached a novel subject with few professional sources touching on either social capital or ICT for Latin America, the researcher of necessity extended this review to incorporate selections from electronic and print media, including websites, web-based academic reports, and news reports. Each source was reviewed, compared and synthesized for understanding of the factors which might promote or inhibit usage or adoption of the Internet for teacher professional development in a setting such as is planned for this study.

A thorough search for literature touching upon the themes of this study brought to the fore professional articles, web pages, new articles and other media via computer data

base and library research. Key words in this search included “social capital,” “capital,” “social networks,” “diffusion,” “ICT,” “developing nations,” “developing countries,” “less-developed countries,” “rural,” “remote,” “Internet,” “online,” “on line,” “ICT” and “distance education.” Other key words applied to literature searches were related to specific topics under the general heading of social capital and diffusion of the Internet. These included, “teacher training,” “professional development” “Guatemala,” “Mexico,” “indigenous,” and “Central America.” Use of these search words led to the discovery of professional literature originating from a variety of fields of study which significantly enriched this review.

Factors Affecting the Diffusion of the Internet in the Developing World

Overview

Romo-Rodriguez (2005) attested that literature which discussed the proliferation or diffusion of Internet technology almost wholly focused on the private sector in the developed nations, and consistent with statements by Creed and Joynes (2005), Trucano (2005) and Lorenzetti (2004), asserted that literature regarding the application of Internet technology in developing nations was “scant” (Romo-Rodriguez, 2005, p. 2). This review contributed a thorough exposition of factors which have historically affected, in positive or negative ways, the diffusion of Internet technology in developing nations. These factors were identified through an extensive search of professional literature related to diffusion and the digital divide in developed and developing nations. Diffusion-preventing factors which were identified were (a) polarization of resources, (b) political will, (c) buying power, (d) ICT sophistication, and (e) policy endorsements.

Polarization of Resources

Rogers's definition of the digital divide was cohesive with the concept of advantage or disadvantage afforded by the Internet, and reminded one of the need for providing access to the disadvantaged. He stated, "The digital divide is the gap that exists between individuals advantaged by the Internet and those individuals relatively disadvantaged by the Internet" (Rogers, 2003, p. 468). Most of the earth's poor were found to be isolated from Internet technology, as "two out of five persons in the developed world have access to the Internet, compared to one in fifty in the developing world" taken as a whole (Leavey, 2003, p. 1). Those among the poor, who indeed were economically able, might be unwilling to utilize digital technology for education. Unwillingness to take action which could result in economic progress could be due to apathy, cultural complications, and concerns about the value of seeking assimilation (Henry, Stiles & Biran, 2005; Oxoby, 2004). These combined phenomena, if considered under the umbrella of the digital divide, denoted material, sociological and psychological barriers to universal Internet access for communication, collaboration and learning (Attewell, 2001; Natriello, 2001).

The digital divide was shown to threaten to magnify the effects of poverty (Hung, 2003), intellectually polarizing the rich and the poor, particularly in developing nations, "where access to the skills, equipment, and software necessary to gain entry to the electronic highway threatens to create a large-and predominantly minority-underclass that is substantially disenfranchised from the benefits of cyberspace" (Barshefsky, 2002, p. 1). Competitive advancements in ICT remained economically prohibitive for the poor, even

in developed nations (Attewell, 2001; Rutherford et al., 2004). Industrialists, military and bureaucrats, the elites of developing nations, recognized the need to increase social welfare spending (Rudra, 2005). They also recognized the growing importance of building a computer-literate workforce which may be hired by local and foreign industry. Koss asserted that sixty percent of Guatemala's population was composed of children and adolescents who would suffer significantly in the job market if not afforded a way to bridge the digital divide and become digitally proficient (Koss, 2001).

Institutional elites believed they must retain centralized control in the provision of new technologies, as, without it, the conduit for their importation would be dissolved (Maksakovskii, 2006; Rudra, 2005). Politics of local and foreign governments, NPOs and intergovernmental organizations were discovered at the forefront of the dialogue to close the digital divide, encouraged by the socioeconomic growth potential for nations. These entities recognized the potential for a "new economy... based on knowledge and information technologies, which are becoming one of the most important factors of social and economic development," (Maksakovskii, 2006, pp. 18 – 19) reliant upon the promulgation of "a system of education that is appropriate to it... (but which is) not possible unless the state plays a decisive role" (p. 19). In the context of educational utility within developing nation settings, it was important to take note that the term, "appropriate" might signify short-term vocational training or a certificate program leading directly to employment, in lieu of a four-year degree.

Political Will

In the past, sharp contrasts between democratic rhetoric and the practice of elites impeded the progress of mass access to communication resources in many developing nations, including Guatemala (Fazio, 2007), in marked contrast to Costa Rica, which consistently advocated advancements to increase the global competitiveness of its workforce (Rudra, 2005). In all cases, the implementation of plans for filling the digital divide in developing nations was, in the past, a multi-organizational challenge affected by conflicting interests regarding institutional priorities and allotment of resources (Fazio, 2007), as often adoption of ICT innovations was relegated to use by elites only and not for solving problems at the community level or acquired for limited demonstration or pilot sites where they remained unused or underused (Douglas, 2006; Harvey & Klopfenstein, 2001).

Factors which impinged on the independent, public uses of the Internet in non-metropolitan, non-developed areas were often, but not always (Hung, 2003) superseded by technologies which permitted Internet access independent of national infrastructure (Bennett, 2003; Goodman, Gottstein & Goodman, 2001; Harvey & Klopfenstein, 2001). Internet access via satellite was a key example of globalization of Internet resources. Romo-Rodriguez indicated that globalization referred to the “intensification of global interconnectedness, particularly... to the innovations in technologies of communications and transportation” (2005, p. 5). The Internet was an example of a technology which could overcome ICT infrastructure permitted by governments, and which could be perceived to interfere with cultural and social order (Bennett, 2003; Rudra, 2005).

Although many factors warranted the infusion of monetary resources by governments to improve Internet access to public and private educational entities, the influence and will of elites who led in government and industry were essential to facilitate mass access. Koss codified this phenomenon as: “Information Technology + Political Will = Digital Opportunity” and “Information Technology – Political Will = Digital Divide” (Koss, 2001, p. 78). He stated “The gap between rich and poor countries worsens as the technological divide widens. Without political support, even significant investments in information technology will result in an ongoing digital divide” (p. 78). Koss also indicated that public and private resources are “critical to the growth of digital opportunities” (p. 76), without which developing countries would be left without necessary ICT resources for progress of individuals and industry. Jung indicated that, given the continuous reformation of knowledge sets, teachers who could not make use of professional development resources online would not be able to stay current in their teaching knowledge (Jung, 2005), making Internet access for professional development a necessity rather than a luxury.

Elites of many Latin American nations, including Guatemala, have become increasingly active in promoting universal digital access, recognizing that the fate of industry, increasingly reliant on an ICT-literate workforce, depended on national commitments to close the digital divide through establishment of infrastructure and professional ICT development of educators charged with training future workers and professionals (ITFORCEGT, 2006; Organization of American States, 2006; UN Department of Economic and Social Affairs, 2002). In June of 2006, the Organization of

American States' 36th General Assembly announced intentions which reflected a commitment "to guarantee the liberty of every person to enjoy... the free exchange of ideas through all forms of mass media, including the Internet" (Organization of American States, 2006, ¶ 6) and a call to governments and industry to unite for the promotion of "universal access to the Internet for all the peoples of the Americas" (¶ 8). The Guatemalan government, as recently as September of 2006, has publicly reinforced this commitment for its capital city (ITFORCEGT, 2006; Ordonez, 2006), however, public access to computers and the Internet via telecenters in rural regions of Guatemala, as in rural sectors throughout the developing world (Goodman et al., 2001), was noted as significantly more limited, and might even be more symbolic of aspirations of organizations than of real, active usage (Harvey & Klopfenstein, 2001).

Examples of public access sites, which rural Guatemalan teachers could utilize for professional development included telecenters managed by Aj'batz' Enlace Quiché and the Fundación Rigoberta Menchú Tum (Aj'batz' Enlace Quiché, 2007; Cifuentes, 2007). Examples of training for teachers via online learning in Guatemala included informal training programs such as the GLOBE program, Enlace Quiché (Aj'batz' Enlace Quiché, 2007), AED@ICT (Agency for Educational Development, 2007), the Biblioteca Pública Virtual Rigoberta Menchú (Fundación Rigoberta Menchú Tum, 2007a), and the recently-introduced Online Professional Development Program, offered by the FRMT in collaboration with the researcher as teacher trainer. Formal certificated programs for development of ICT skills were also offered, such as were jointly sponsored between the governments of India and Guatemala (Ordonez, 2006; ITFORCEGT, 2006). Of note, the

Fundación Rigoberta Menchú Tum was also collaborating with a European university to create an online learning program of English coupled with a specialized industry skill (Cifuentes, 2007).

Buying Power

The digital divide was also tied to the buying power of markets, centralized in cities. The Internet has been designated in professional literature as an “urban technology” (Rutherford et al., 2004, p. 1):

The telecommunications infrastructures which support the Internet are predominantly deployed within and between major cities (and)...broadly speaking, core urban regions have significant advantages over peripheral rural regions in terms of access to telecommunications... In large cities, the monetary and academic necessity of ICT skills, including facility with the Internet, is a given, driving achievement in higher education and business...Infrastructure, pricing and training function (work) in tandem to expand the use of services for profit and public benefit. (p. 1)

Goodman et al. (2001) counteracted that the lack of supporting infrastructure for use of the Internet was, until a decade ago, a given for isolated or rural areas throughout the world, but with the advent of satellite-assisted connectivity, the Internet might currently be accessed from any part of the globe, given the provision of appropriate technology.

As point of fact, “satellite and other wireless technologies have progressed to the point where it is not too difficult in theory to provide reasonable physical access to even the most isolated villages. The key question is, ‘Who pays?’” (Goodman et al., 2001, p. 21). Location was, thus, possibly no longer a fixed determinant of the digital divide, but nevertheless a characteristic, and it was clear that buying power of rural societies continued to deter access and usage. Buying power divided members of poor sectors throughout the globe from the potential to acquire personal technology for participation

on the Internet. Community technology centers, also known as telecenters, were an increasing presence in remote areas of the developing world, meant to mitigate prohibitive costs of personal access (Menou et al., 2007, ¶ 15). Yet, presence of a CTC in a community was not found to guarantee participation in its services (Crump & McIlroy, 2003; Foth, 2003).

Levels of ICT Sophistication

Factors have been identified as components of the digital divide which shifted the focus from problems of access to usage. Another suggested definition of the digital divide was "a substantial asymmetry in the... effective use of information and communication resources between two or more populations" (Goodman et al., 2001, p. 21), which incurred reflection upon the mitigating forces which counteracted usage of the Internet for the rural poor of the developing world:

There are a number of divides even if only the Internet is considered, with distinctions between populations based on... income, education, language, occupation, and ethnicity. Multiple distinctions make for stark gaps. Thus, poor, semiliterate, ethnic minorities in small, isolated rural villages in the world's poorest countries are not as likely... to be frequent or sophisticated users as are people not characterized by any of these traits. (Goodman et al., 2001, p. 21)

These data indicated the characteristics of rural individuals less likely to utilize the Internet, and were consistent with Rutherford et al. (2004), who inter-related economic and social forces which contributed to lesser usage of the Internet in rural regions of developing nations. They indicated that, in urban settings, informal and formal social networks supported understanding of the Internet and application of Internet skills. The market favored best quality of services to be situated in and between large urban centers (Rutherford et al., 2004) The only way in which an online teacher development program

could be successfully introduced in a rural sector of the developing world would be through the infusion of donated resources and a staff of experts in ICT and teacher training, funded by government social welfare resources, non-profit collaborations, private industry initiatives, or a combination of these sources, because wholly private, for-profit efforts would be considered as unwise (Romo-Rodriguez, 2005).

Thus it was seen that buying power and location could have a direct effect upon the availability of ICT social supports, described in this study as the norms transmitted through social capital networks, to use the Internet for teacher professional development. The researcher correctly projected that both factors-buying power and location-would weigh heavily upon the reckoning of teachers who were interviewed. It was also accurately expected that they would make comments relative to their levels of previous experience with computers and the Internet and to their ability to seek assistance for understanding the Internet. Additionally, the lack of resources based on buying power, distance from locations with Internet infrastructure, and absence of sources of guidance about the Internet could provoke a sense of futility about using the Internet for professional development. This theme was explored in greater detail below, within the concept of social capital.

Policy Endorsements

Intergovernmental, non-profit and private industry sectors all supported in some measure a plan for improving ICT access in developing nations. Free of armed conflict after a general cessation of disputes in the mid-1990's through the Esquipulas Peace Accords (Fazio, 2007; Conciliation Resources, 2007), Central America was on a growth

curve for establishment of ICT to foment the socioeconomic development of the region's poor classes. Recognized as indispensable for economic competition in international trade, ICT development policies and initiatives in Central America facilitated collaboration between government and industry, and included agreements for improvements in ICT infrastructure, processes, administrative training, and support staff training (Proenza, 2002; Organization of American States, 2006; International Development Research Centre, 2007).

Conjointly, many Central American governments, including Guatemala, have been encouraged to make ICT literacy, and the learning of English-the primary language of international business-as essential and required curricula in primary, secondary and vocational schools (Direccion de calidad y desarrollo educativo, 2006), with the objective of preparing all socioeconomic classes to participate in a new economy which depended upon and utilized ICT processes. These issues have become part of a polemic among organizations which influenced policy and funding decisions for improving availability and quality of educational prospects in Latin America (Agency for Educational Development, 2007; International Development Research Centre, 2007).

An example of this rhetoric was the plan of the World Economic Forum on Latin America. In April of 2007, a meeting of Latin American leaders was held in Santiago, Chile. One of the key products of that meeting was the establishment of priorities for "achieving equitable income distribution in Latin America" (World Economic Forum, 2007, p. 2). Among the priorities identified to meet this end, education was considered the primordial key to innovations in economic development for Latin America's poor

classes. The findings of the Santiago Consensus for developing the innovative power of education included injunctions to: (a) “improve the... professionalism of teachers,” (b) “... boost teacher wages,” and (c) “use the Internet and cutting-edge technologies.” (p. 9). Additionally, the conference enjoined the active involvement and contribution of private industry to meet these goals.

Governmental representatives attending the World Economic Forum (WEF) on Latin America voted ICT as one of the top ten priorities for research and development, however the emphasis was given to improvement of ICT infrastructure (World Economic Forum, 2007). Two WEF priorities for improving educational outcomes in Latin America could be melded to promote improved professional development of low-income teachers. The FRMT sought to promote such types of collaboration for establishing an online certificated degree program in collaboration with universities, volunteer consultants and funding organizations, and this objective motivated the present study (Cifuentes, 2007). However, the success of such a collaboration relied upon clear evidence that conditions for optimum learning had been identified through research and could be assured. Of these conditions, another source of literature expressed the essential facet of knowing about the social supports which were needed or expected by teachers in the developing world for optimum success in online learning (Lorenzetti, 2004).

The aforementioned social factors which affect the diffusion of Internet technology and usage in rural sectors of the developing world contextualized the debate about how teachers in this setting could potentially respond to the prospect of adopting, or using, Internet technology for professional development, and about the kinds of social

relationships which they expect would best assist them to participate. Social capital was seen as a concept which could shed light on social relationships of this nature and which could be, but hadn't been, applied and tested for establishing new processes, including ICT, in these settings (Lorenzetti, 2004). A separate field of study which fully correlated with the concept of communication within social groups to promote technology was the area of diffusion research, led by the work of Rogers (2003).

Rogers's Theories of Diffusion of Innovations and Perceived Attributes

Overview

Diffusion research described the process of adoption of an innovation, and extended to a discussion of the reactions of potential adopters to innovations, with applications to ICT. Rowe-Whyte, O'Sullivan and Hunt (2002) proposed that the

inexperienced users' contact with technology might generate... stresses that can interfere with effective communication. If so, the technologically inexperienced may avoid opportunities to increase their technological competence or hold negative attitudes that can undermine persistence and achievement. Thus, mere exposure to technology may not be enough to narrow the digital divide. (p. 2)

Because the teachers targeted for this study presented concerns consistent with literature related to discomfort with Internet technology, the subject was explored by citing Rogers's classic theories of diffusion of innovations and of perceived attributes of innovations (Rogers, 2003). A discussion of these two theories, with emphasis upon the latter's discussion of perceptions within social systems about innovations, effectively shed light on potential linkages with the influences of social capital noted heretofore in this review, and enhanced the discussion of teacher interviews in the study's setting,

elucidating why they were responding positively or negatively to the proposition of online professional development.

In 2002, a national conference was convened, celebrating the forty year anniversary of the publication of Rogers's theory of diffusion of innovations came to press (Rogers, 2004, footnote, p. 1). At that conference, Rogers said,

A great deal of research in a variety of academic disciplines (about 5000 studies today) has been conducted on the diffusion of innovations over the past six decades... From these investigations has come a general model of the diffusion of innovations, which can be applied to the recent spread of the Internet or to any other new idea. (p. 13)

Consequently, rather than an exposition of all features of his theories across multiple academic disciplines, this portion of the literature review focused on aspects which interrelated with the social factors of diffusion-many of which combined facilely with aspects of the spread of norms within social capital networks, particularly as delineated in three varieties of social capital networks: bonding, bridging and linking social capital (Putnam, 1995; Putnam, 2000; Woolcock,1998; Woolcock, 2002). Also, the review highlighted pertinent commentary about diffusion of the Internet.

After a brief review of his theory of diffusion of innovations, this section of the review was set forth to expand upon his theory of the perceived attributes of innovations (Rogers, 1995; 2003; Rogers & Havens, 1962; Rogers & Shoemaker, 1971). While Rogers's original theory described the process and timetable of technology adoption in an agricultural sector of United States society (Rogers & Havens, 1962), his later attributes theory (Rogers, 1995; 2003; Rogers & Shoemaker, 1971) followed the more interesting path of identifying the specific technology factors which a novice potential adopter would

be expected to weigh when forming attitudes and decisions towards adoption or rejection, and it is upon this second theory this researcher relied to understand how perceptions which have been identified about adoption or usage of educational technology (Frank et al., 2004; Rogers, 2003; Rowe-Whyte et al., 2002) related to attitudes of rural Guatemalan teachers about participation in online professional development.

Theory of Diffusion of Innovations

Looking first, then, to Rogers's theory of diffusion of innovations, in 1962 Rogers published a theory of how farmers in Iowa would be expected to adopt a form of new agricultural technology (Rogers & Havens, 1962) and his work met with a degree of notoriety within that field of study. However, it seems that it was with the publication of later editions of his theory of diffusion of innovations that his work was increasingly found to have practical value in relation to adoption of multiple forms of ICT and particularly for planning the marketing and diffusion of ICT with the potential for higher profits in industry. His concepts have gained wide applicability to the diffusion of many forms of technological innovation, and to innovation in ideas (Orr, 2003). Rogers asserted that it was difficult to promote the rapid adoption of beneficial innovations, and that the topic of how to accelerate diffusion has absorbed many individuals and organizations (Rogers, 2003).

Rogers asserted that diffusion is "the process in which an innovation is communicated through certain channels over time among the members of a social system" (2003, p. 5). As such, Rogers indicated that diffusion required the important elements of time, means of communication, and a social system. The second and third of

these elements distinctly made Rogers's theory of import with regards to the sources of social capital. The sources of social capital, classified as the concepts of bonding, bridging and linking social capital (Putnam, 1995; Putnam, 2000; Woolcock, 1998; Woolcock, 2002) correlated as three catalysts for diffusion, and all represent types of social networks or systems under definitions of the terms for this study. Specifically, diffusion of innovations and social capital theory also shared the concept of individual choice within a social system (Rogers, 2003; Woolcock & Narayan, 2000), and the effects upon individuals within social networks for adoption of Internet technology represented important social capital influences.

The process of adoption of an innovation, or *mechanism of diffusion* as described by Rogers separated the population into five categories: 1) innovators, 2) early adopters, 3) early majority, 4) late majority, and 5) laggards (Rogers, 2003, p. 270). The relative proportions of these groups splay into an "S-shaped cumulative curve" (Rogers, 2003, pp. 272 – 273) which depicts the late majority as the largest proportion:

The S-shaped adopter distribution rises slowly at first, when there are only a few adopters in each time period. The curve then accelerates... until half of the individuals in the system have adopted...(and) increases at a gradually slower rate as fewer... individuals adopt the innovation. (p. 272)

Rogers made plain that those who follow this path were basing their decision of when to adopt (or not) based on their attitude about the innovation, also influenced by decisions of any adopters of whom they become aware of within the social system (pp. 274 – 275) including the opinion leaders and change agents (p. 24). This concept was fully consistent with the concept of norms within social networks as the definition of social capital to be applied to this study (Woolcock & Narayan, 2000). This concept also paralleled a key

notion, promoted by Van Bavel et al. (2007), of the role of social capital as a catalyst within a social system, through the conduit of ICT.

Rogers indicated that each member of the group made an innovation decision through a series of intellectual steps as follows: (a) knowledge, or awareness of the innovation and its properties; (b) persuasion, or attitude formation for or against the innovation; (c) decision, meaning a choice to adopt or reject; (d) implementation, or usage, and (e) confirmation, or evaluation of the innovation (Rogers, 1995, p. 23). This second step, persuasion, was found to be of particular interest to this researcher, as the perfect fit to a study such as proposed here, wherein all members of a group were made aware of the availability of an innovation, but not all were persuaded that it was of personal value, as they might not be fully aware of the benefits.

Rogers defined opinion leadership as “the degree to which an individual is able to influence other individuals’ attitudes or overt behavior informally in a desired way with relative frequency” (Rogers, 2007, p. 27). Rogers characterized the facets of the opinion leader’s influence to include “social accessibility” and “technical competence” (p. 27). In comparison with the sources of social capital, thereby, an opinion leader could be an influential expert from outside the social system (linking social capital), in a formal role within the social system (bridging social capital) or in an informal role within the social system (bonding social capital). Precisely what individuals, groups or combination thereof might influence each teacher respondent to enhance their Internet usage was the primary key theme of the study, and the genesis of the research question. The melding of concepts of diffusion with the sources of social capital led to the development of the

research questions, the interview questions and the processes utilized to support the driving of the study by the local educational community of San Lucas Toliman. The influence of the opinion leader could have a significant effect upon the teacher's determination of value of online learning. Many potential opinion leaders were present within community educator teams which analyzed data from the interviews to derive findings. Who these opinion leaders were in San Lucas Toliman became apparent in part through the analysis of the comments of the interviewed teachers and through the presentation of group findings as organized around principles of the PRA.

Drawing upon findings about the adoption of innovations, Rogers concluded that very few sources addressed the effects of social groups or social networks upon the diffusion of an innovation and asserted that it was essential to obtain an understanding of the social structures which surrounded an individual in order to recognize the ramifications of those effects. This was a significant assertion which paralleled Kowch's statement about the need for interrelating research about diffusion, ICT and social capital to improve online education (Lorenzetti, 2004), which is precisely the purpose of the proposed study. Rogers (2003) stated: "Compared to other aspects of diffusion research... there have been relatively few studies of how the social or communication structure affects the diffusion and adoption of innovations in a system. It is a rather complicated matter to untangle the effects..." (p. 25). Rogers stated, however, a set of parameters which very well could be used to narrow down the definition of a system and how an innovation could be diffused within it, that human components made up the system, and that their degrees of influence would vary (p. 24).

Rogers (2003) indicated that the social system constituted a boundary within which the innovation was to be diffused and clarified that, due to human variation, the diffusion would be spread with varying degrees of effectiveness. He also clarified that the social structure allowed for the communication of information which resulted in a decrease of uncertainty (p. 24). These of Rogers's reflections were consistent with assertions by Lin (1999) that social capital was to be understood as social influence within networks, and that norms could be transmitted between members of the network. It led to the consideration that a very effective method of accelerating a diffusion within a social system would be to persuade opinion leaders-key individuals of influence within the system-of the value of an innovation, and to provide training which they could share in turn key fashion with others to utilize the innovation. One of the conclusions to be sought through this study was the identification of the community's opinion leaders regarding teacher professional development and their effects upon the usage of the Internet for online teacher education.

Rogers referred to individuals of influence as grouped in two types of social relationships-patterned (formal, hierarchical) and interpersonal (informal, interactive) (Rogers, 2003). Individuals that exercised influence through patterned relationships could exercise direct influence upon decisions of participating teachers regarding adoption of the Internet for professional development, because "their orders are expected to be carried out" (p. 24). Likening this concept to the relationships of teachers in the study's site, San Lucas Toliman, an example of patterned relationships would be the local representative of the Ministry of Education, school directors and administrators of the

FRMT middle school and community technology center at the Centro Educativo Luciano Pavarotti, who in their role provided guidance for teacher professional development, qualifying, as such, as sources of bridging social capital (Putnam, 2000; Woolcock, 2002). Their role would be essential to the commitment of local teachers to online learning, for if they counseled against it, teachers participating in this study would be less likely to take up this initiative, and if they counseled for it, teachers under their supervision should expect help in the form of guidance or administrative support for participation.

Examples of informal teacher relationships relative to use of the Internet for professional development in San Lucas Toliman might be represented as ties with teaching associates, friends who used the Internet at home or work, and close relations who could act as an expert or place them in contact with an expert. Their role, too, was essential, as they may have represented role models, offered motivation, or encouraged determination in participating in a professional development online model. Rogers made it clear that it was important to understand the behavior of members of the social system in this context, and to “trac(e)... who interacts with whom and under what circumstances... (known as) the differentiated elements that can be recognized in the patterned communication flows in a system” (Rogers, 2003, p. 24). Rogers pointed up this necessity through contrast with the inverse:

A complete lack of communication structure in a system would be represented by a situation in which each individual talked with equal probability to each other member of the system... However, regular patterns soon begin to occur in the communication network of the system... (determining) in part, the behavior of individual members of the social system, including when they adopt an innovation. (pp. 24 – 25)

Thus, it was necessary, in this study of the influence of social networks and norms upon teacher Internet usage, to find ways to discover the people with whom each teacher interacted to gain support or assistance for using the Internet. This category of individuals fully correlated with notions of bonding and bridging social capital (Putnam, 2000; Woolcock, 2002).

Van Bavel et al. (2007) presented congruent findings, indicating that not only was ICT an effective conduit for introduction of new forms of social capital to a system, but could be used to enhance ICT usage within the system, by association with individuals initially affected by the innovation. Rogers described these types of individuals as “opinion leaders or change agents” (2003, p. 24) and his terminology was used to describe these integral individuals when analyzing interview data. Change agents, or change subjects, as some teachers referred to them, carried a role of instigating change, might be members of the society or might originate from outside the society. They had a role of influencing opinion leaders or might themselves be opinion leaders (Rogers, 2003). Rogers described the characteristics of opinion leaders, and they could correlate with individuals at any level of social capital, but could be more likely considered as emanating from bridging (experts) or linking (extrasocietal contacts) origins. These criteria were used to identify them as referred to in the proposed study:

When opinion leaders are compared with their followers, they (1) are more exposed to all forms of external communication and thus are somewhat more cosmopolite, (2) have somewhat higher socioeconomic status, and (3) are more innovative (although their degree of innovativeness depends, in part on the system’s norms...). (Rogers, 2003, p.27)

The role of opinion leaders and change agents were deemed by Rogers as essential in accelerating the diffusion of an innovation. Rogers attributed their role as a key factor in reaching the *tipping point*, or the anticipated conditions under which a new form of technology, initially accepted by a relative, innovative few, was adopted by the masses among the potential adoption population. Stanford's Orr has said about this aspect of Rogers's theory,

Carefully researched analysis has shown that (the tipping point)... is an undeniable phenomenon that once understood provides simple and valuable prescriptions for efforts in encouraging diffusion. There seem to be many innovations that are valuable for the masses, yet to date have resisted diffusion... Also, there are many social ideals that a large number of people are very interested in spreading... So it seems that understanding and utilizing diffusion networks can aid strategy aimed at quickly inducing system-wide change. (Orr, 2003, ¶ 17)

Orr was not alone in suggesting that Rogers's theory of diffusion of innovations represented the single most important theory of its kind for explaining how to introduce an innovation which represents a significant improvement to general mass adoption. He also pointed up that it was not enough to produce an innovation which provides advantages, because, without a knowledge of the process of diffusion, innovations might be neglected or ignored in favor of the comfort of continuing with what is known (Orr, 2003). This concept was consistent with the assertion that provision of a ICT did not guarantee usage (Crump & McIlroy, 2003; Foth, 2003). Again, the value of an opinion leader or change agent for initiating or accelerating the adoption process was apparent, and related assertions might result from the questioning associated with this study. But, Rogers provided a caution which was reflected in this study, in that he indicated that although some opinion leaders are innovative, others "can head an active opposition"

(Rogers, 2003, p. 27) to an innovation. Within the context of this study, it became evident that some of San Lucas Toliman' opinion leaders, in the context of family members, acted in opposition to the diffusion of the Internet for teacher professional development.

Understanding why some believed the innovation of free Internet usage for professional development was of value and some did not would be endemic to the mounting of plans for communicating with teachers in a way which promoted widespread adoption, or the tipping point, for an online teacher certification program. It is with this point in mind, Rogers's theory of perceived attributes of innovations can be examined for clues about potential reactions to the Internet for professional development online of rural Guatemalan teachers, facilitating the discernment of such references in the comments of those who participated in the study's interviews. Rogers made two key points about how diffusion through and about the Internet could differ from diffusion of other forms of technology. He saw it as a communication channel (Rogers, 2003, p. 215) and as such a form of mass media which provided a two-way form of communication in an "interpersonal network" which could promote attitude formation or "persuade an individual to... change a strongly held attitude, (or) adopt a new idea" (p. 215). He also pointed out that the Internet itself, "has created increased interest in the study of diffusion, and particularly in the role of communication networks in the diffusion process" (Rogers, 2003, p. 346). Both of these cited assertions by Rogers concerning the Internet reaffirmed the importance of studying how individuals within the social networks of San Lucas Toliman and from outside the local social system could influence individual teacher attitudes about using the Internet for professional development. The

Internet, inextricably connected with the use of computers, was also an example of a “technology cluster,” meaning a form of technology dependent upon, or interactive with, other forms of technology (Rogers, 2003, p. 249).

Theory of Perceived Attributes of Innovations

In contrast to Rogers’s insights about the process of diffusion, the theory of perceived attributes directly addressed the psychology behind attitude formation about an innovation, and specifically, in the case of the proposed study, the influences which could persuade an individual teacher to adopt a technological innovation—the Internet—as a tool for improving professional development. Rogers’s theory of perceived attributes of innovations codified the practical or perceptual tests of utility which a potential adopter might apply when made aware of a technological innovation (Rogers, 1995, p. 208).

The recognition of disparity between what is expected or anticipated about the use of the technology could bring about concerns for the potential adopter. In his description of the perceived attributes, Rogers presented five generalizations about the concerns which a potential adopter of an innovation might experience, and discussed the potential reactions to these concerns within a given social system. Recognizing the role which the five perceived attributes might play in the decision process to adopt or reject an offer, by members of a social system, to use the Internet for professional development, they were described as (a) relative advantage, (b) compatibility, (c) complexity, (d) trialability, and (e) observability (Rogers, 2003, pp. 219-258). In the following review of the five traits, as each is described, it was compared with expected social influences to understand potential interrelationships. The term, *technology*, as employed within this section of the

review, was considered synonymous with *innovation*, as the type of innovation which is considered for this study is a technological innovation.

Relative Advantage. Rogers described the trait of relative advantage as its perceived value for improvement over technology which preceded it, confirming, however, that a recognition of advantage did not in itself guarantee adoption. Rogers defined the variety of qualifiers which might indicate relative advantage as (a) economic factors, (b) status aspects, (c) overadoption, (d) preventive innovations, (e) incentives and (f) mandates for adoption (Rogers, 2003, 229 -240).

Compatibility. Rogers's definition of compatibility was "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters," and bears a negative correlation with uncertainty (2003, p. 240). Rogers discussed three kinds of compatibility with technology.

Compatibility with values or beliefs: Rogers's "empty vessels fallacy" (Rogers, 2003, p. 254) was a sub-concept of compatibility related to introducing a new technology to a culture, particularly a non-Western, or indigenous, culture. If a change agent was perceived as denying the value of cultural practices, particularly of practices which the new technology portended to replace or improve upon, members of the social group might react through wholesale rejection of the innovation. Unless the change agent demonstrated how the technology would intersect with, support and enrich culturally-accepted practices, the members of the social system, and in particular opinion leaders, would determine that the technology is not compatible with their needs, diminishing the rate and propensity for diffusion. To maintain the group's integrity, potential adopters did

not recognize the utility of the innovation unless the change agent or opinion leader demonstrated a “mental bridge” between the technology and the currently-accepted practice, and even then the innovation might not be adopted (Rogers, 2003, pp. 255-257).

Rogers also stated that problems could occur if the norms of a social system were ignored when attempting to introduce a technological innovation, implying to members of the social system that, without the assistance of the innovation, they would be unable to meet their needs in other ways (Rogers, 2003, pp. 255-257). Additionally, systems of thought or behavior which supported a different form of technology, or a pattern of living which was anathema to the innovation must be assessed to make sure how to fit the technology within the social system, and this problem was found more striking when seeking to introduce innovations in technology within an indigenous culture (such as is found within Guatemala). Lastly, Rogers pointed out that traditional or deeply held values might affect the rate at which an innovation could take hold (Rogers, 2003, pp. 249, 255).

Compatibility with previously introduced ideas: Rogers explained that it was not enough to offer an innovation which provided new benefits. People wanted the security of knowing how a new machine or process was similar or different to that which was familiar to them. Rogers introduced the concepts of positioning and naming for consideration of their effect upon adoption. Understanding positioning assisted the entity which introduced an innovation to know whom to communicate with and how. Naming was important because the manner in which the product was referred to was found to determine how it was perceived and accepted. No name or position was found to

guarantee unanimous acceptance. A name similar to other known technology might elicit positive or negative reactions, depending on previous experiences with the name, and might incur similar treatment or use of the technology. A name which was different from known technology might inspire confidence in the change it represented, or discomfort about the possibility of failure (Rogers, 2003, pp. 250-253).

Compatibility with needs: Rogers asserted that an innovation would be adopted faster when the potential adopter experienced feelings that it might meet a present need. It was found to be very important to know the feelings of a social system or group relative to their needs, including needs which they believed to be realistic. One of the problems of introducing an innovation which could meet a previously unresolved need was found to be that some members of the group might assume the claim of efficacy was false or inflated. This made the introduction of the innovation doubly challenging, as it was necessary to communicate irrefutable proof of efficacy in meeting the felt need. In some instances, a social group might experience an unconscious need, for example, to feel validated or to take actions leading to improved welfare of the group. In this case, description of the connection between function and need was found to be not only unnecessary, but possibly counterproductive. Simple introduction of features and benefits might suffice in promoting adoption (Rogers, 2003, p. 171-173).

It was interesting to note that this feature of diffusion theory intersected with concepts of structural assimilation (Simpao, Espino, Palmer, Lichtenstein, & Hazuda, 2005), in that individuals might reject an opportunity or innovation if it implied a contradiction with group values. How wide these values ranged might be influenced by

the social networks which held and distributed resources needed by the individual. If, for example, a community leader held negative impressions about the technology's introduction, referred to by Rogers as "innovation negativism," (Rogers, 2003, p. 245) some members of the system might elect not to adopt. Innovation negativism was described as "the degree to which an innovation's failure conditions a potential adopter to reject future innovations" (p. 245). The leader might have had a bad experience with the innovation or might have heard a negative report from an associate. However, if an opinion leader chose to adopt, others might still follow their example. Knowledge of who these people were, in a rural community such as San Lucas Toliman, might aid in influencing a wide range of individual teachers to adopt Internet usage for professional development and in addressing potential barriers to adoption.

Complexity. Rogers indicated that as an innovation came into use, potential adopters might hear about its qualities from others. As knowledge of how to use the innovation spread, the rate of adoption would be expected to increase. This area of perception is of particular import to this study, as the role of social networks to motivate or help with the process of adoption was explored. When a potential adopter perceived the innovation as easy to use and understand, the propensity for adoption increased. In Rogers's view, complexity was, then, "the degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers, 2003, p. 257).

Trialability. Trialability's root word, *trial*, gave the clue to the meaning of this attribute, because "trialability is the degree to which an innovation can be experimented with on a limited basis" (Rogers, 2003, p. 258). Innovators and early adopters made use

of this trait to understand the innovation. It may be that an innovator or early adopter possessed more resources available for experimentation, such as financial resources to purchase an item which might later be discovered to not suit expected needs or to not function as promoted, or it might be that the individual was able to make time available for trying out the innovation, reflecting on its functions, and potentially for making recommendations to others about the qualities of the innovation. Trialability was defined thereby as a key characteristic for promoting acceptance through social networks and as a mode for communicating norms... or values, about the innovation (p. 258).

Observability. Observability was described as “the degree to which the results of an innovation are visible to others” (Rogers, 2003, p. 258). When an innovation did not demonstrate immediate, and observable, benefits, it was subject to rejection or, in cases of required use, noncommittal adoption. A non-tangible technological innovation, such as the Internet or a software program, must have met the parameters of observability also. However, perception of benefit was dependent upon the potential adopter’s role or interests, making multifunctionality of an innovation an important determinant of the degree of adoption. Also, if an innovation depended upon other technology (such as the Internet must be combined with a form of ICT hardware), and the technology was unavailable to the potential adopter, the rate of adoption might be affected although the innovation was observed to provide benefits. In each case the attribute, as perceived by members of the social system, was either positively or negatively related to the rate of adoption, indicating its positioning on the timeline of diffusion (Rogers, 2003, p. 258).

Rogers's theory of perceived attributes of innovation bore exceptional value to inform the proposed study of social capital influences upon Internet usage of rural Guatemalan teachers, in that it revealed potential issues of perception which promoted or deterred the adoption of a new technology. This theory linked back to what is known about diffusion of Internet technology in rural sectors of the developing world, because it acknowledged the sociopolitical setting in which change could occur, and the essential role of opinion leaders and agents of change to support the adoption process. This theory also tied to the next and final review of literature which covered the influence of social capital upon the establishment of ICT in the developing world, because it acknowledged the medium of exchange of information about an innovation as the social system.

Social Capital as a Medium of ICT Diffusion

Overview

In this section, the phenomenon of social capital, was explored. Reasons for limiting its definition to fit specific situations were discussed. This literature review would be incomplete if social capital was not referred to as a primary topic for enhancement of ICT in Latin America, because of its predominance in the ICT literature of intergovernmental organizations such as the World Bank, the first and foremost organization to promote its application for resolution of problems of developing nation communities (Sobel, 2002). Speaking of social capital as resource to enable collective action, the World Bank argued that increasing evidence showed that social cohesion is critical for societies to prosper economically and for development to be sustainable (Woolcock & Narayan, 2000). Social capital has been demonstrated to have a marked

effect upon processes of community-driven development in rural sectors of developing nations, specifically through its power to share norms for adoption of new practices which have been agreed within a social network to be worthy of adoption. This effect has spurred the current polemic which linked research about social capital to a debate about how to improve rural developing nation access to ICT, including the Internet, as a form of community-driven development.

The debate fell short on data about why, after providing access, usage might be less than expected, and a number of researchers have raised the issue (Crump & McIlroy, 2003; Dimaggio & Hargittai, 2001; Foth, 2003), as is the case in point of this study. Mendler, Simon & Broome (2002) showed that in their studies of distance learning programs with developing nations, that most distance learners, in their inexperience with ICT, required a great deal of assistance to use the Internet, and “demanded an unanticipatedly high level of staff time for troubleshooting as well as academic support” (p. 316). One can also reflect back to the comments of Goodman et al. (2001) that indigenous peoples in rural areas may expect less of themselves and of those around them regarding learning and applying ICT skills. This in turn, generated the inquiry into what types of assistance would be needed, and from whom, for rural Guatemalan teachers to effectively utilize professional development opportunities available via the Internet. For this study, that assistance has been codified in the form of social capital—norms shared through social networks.

Social Capital for Community-Driven Development

Beginning in the 1990's, Woolcock, Grootaert, and their associates made significant inroads in discussing the potential of applying social capital measurement tools for community-driven development in rural sectors of the developing world. World Bank documents regarding the transformative potential of social capital were comprehensive representations of contemporary knowledge about effective measurement of social capital and application of data for improvement of real problems identified in communities of developing nations (Sobel, 2002). In particular, two World Bank publications regarding measurement of social capital (Dudwick et al., 2006; Grootaert, Narayan, Nyhan Jones & Woolcock, 2004) provided significant tools for quantitative and qualitative analysis of social capital in these settings, but these tools were not specifically oriented to the measurement of social capital for ICT.

From this base evolved the publication of documents by the World Bank and other organizations regarding the application of social capital processes for the empowerment of communities according to their expressed needs, which included the establishment of ICT in rural sectors of developing nations, to bridge the digital divide. PovertyNet, a World Bank website, featured a section which indexed literature regarding the measurement and promotion of social capital processes for establishing programs, including ICT, to benefit communities in rural sectors of developing nations (International Bank for Reconstruction and Development, 2008).

The documents published through PovertyNet were, in the main, treatises of policy and articles promoting community-driven development-a process which relied

upon social capital-for design or improvements of programs for the public welfare. Of these programs, ICT was given mention or featured among examples of projects from which communities could benefit. Other documents were specific descriptions of how social capital has been applied for the better of rural communities in Southeast Asia and Africa. Although the measurement of social capital was given significant attention, there was a notable dearth of quantitative or qualitative research studies specifically discussing ICT (International Bank for Reconstruction and Development, 2008). Community Empowerment and Social Inclusion, another World Bank website, featured documents which reflected the progress of e-learning initiatives in developing nations (International Bank for Reconstruction and Development, 2007a). While promoting the application of social capital principles for ICT in rural sectors of the developing world, these websites represented the general absence of studies which measured how to improve usage of information and communications technology in the developing world.

Thus, social capital has been identified as a concept with multiple applications, and was seen as essential to promoting any form of community-improvement project, including the establishment of ICT, for rural sectors of the developing world, however no specific data was provided for applying social capital for enhancement of ICT usage. Although no specific studies provide data on how social capital could create or foment ICT access or usage, researchers acknowledged its power within social networks-an essential feature of social capital (Lin, 1999)-for diffusion (Rogers, 2003; Van Bavel et al., 2007). Thereby, and given Kowch's indication of the absence of research linking social capital for the improvement of online education in the developing world, this study

transformed those credible conceptual connections into a research study of highly practical value. Selection of a functional definition for social capital became the next task in this review.

Correlation of Social Capital Definitions

Social capital was identified as essential for establishment of ICT in the developing world, and framed the derivation of findings based on the interviews conducted for this study. Echoing observations of Paldam (2000) and Coleman's earlier view of social capital as a form-fitted concept with flexible definitions (1988), the World Bank indicated "...social capital is comprised of concepts such as 'trust', 'community' and 'networks'... (and) how we measure social capital depends on how we define it... Depending on the definition of social capital and the context, some indicators were found to be more appropriate than others" (Woolcock & Narayan, 2000, p. 2).

Bourdieu was generally acknowledged as the modern progenitor of social capital studies, and a significant body of research has steadily developed since the early 1990's (Sabatini, 2007). Bourdieu put forth the first clear definition for the term to be found in twentieth century literature (Lin, 1999), stating, "Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu 1983, p. 249). Bourdieu's view of social capital also expressed the function of social networks for obtaining symbols, skills and supports which could lead to social mobility. Van Bavel et al. (2007) emphasized the utility of discussing social capital from the viewpoint of its role within networks:

In order to emphasise the fact that certain aspects of social capital are specifically shaped by ICTs, networked social capital emerges as...useful... (and) such a notion enables discussion of the implications, with regard to social capital, of living in an increasingly networked society. Moreover, as noted earlier, the reliance on ICTs will only increase through time, making the notion of networked social capital more relevant in the future. (§ 8)

They emphasized that research about social capital as social networks would gain precedence in professional dialogue as the relatively-new technology of the Internet gained mass diffusion in the developing world.

No commonly-accepted definition of social capital has been identified. Some attributed the tenuousness of a fixed meaning for the term to Putnam's promotion of the concept in popular literature (1995; 2000), due to which a plethora of studies were produced, spurring exponential applications, and alternative definitions, in a wide variety of fields, including business, economics, psychology, sociology, and education, including education for developing nations (Lin, 1999; Putnam, 2000; Sabatini, 2007). However, social capital was clearly distinguished from classical descriptions of material capital and human capital, both of which emphasized the role of work to obtain resources, whereas social capital emphasized the nature of relationships to that end (Lin, 1999).

Others saw the flexible meaning of the concept of social capital as a function of its applicability in professional literature to a vast spectrum of situations where the description of the effect of social phenomena upon achievement, or accessibility of resources leading to achievement, was at hand, and considered it to be of significant metatheoretical value (Paldam, 2000). Coleman stated, "Social capital is defined by its function. It is not a single entity, but a variety of different entities, having two characteristics in common: they all consist of some aspect of a social structure, and they

facilitate certain actions of individuals who are within the structure” (Coleman, 1988, p. 98). The researcher has chosen to follow Coleman’s tenet in the process of specifying which of many social capital definitions would be employed for this study of social influences to resolve problems related to using the Internet, suited to its purpose and designated outcome.

Putnam contributed to that polemic by emphasizing social influences upon outcomes, focusing on the formation, adjustment or enhancement of human relationships to resolve problems or create new systems. As some other theorists, he characterized social capital as norms within social networks, and his work is cited in many instances within World Bank literature. Putnam stated,

Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense social capital is closely related to what some have called ‘civic virtue.’ The difference is that ‘social capital’ calls attention to the fact that civic virtue is most powerful when embedded in a sense network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital. (Putnam, 2000, p. 19)

Putnam’s writings emphasized the empowering value of social relations for mutual assistance through networks, which was a concept applicable to the proposed study. He also reinforced Bordieu’s view of social networks as hierarchical, preliminary to his identification of sources of social capital and their relative proximity.

Woolcock and Narayan proposed a more tailored definition of social capital which was generally applied through the International Bank for Reconstruction and Development (World Bank), which indicated that “...social capital refers to the norms... and networks that enable people to act collectively” (Woolcock & Narayan, 2000).

Definitions and subsequent applications of the term might be limited to those which explain or operationalize social capital under this umbrella, referring to it as norms within social networks (Alsop et al., 2003; Woolcock & Narayan, 2000), a briefer definition also promulgated by World Bank researchers.

Specifically, that definition was employed for this study, molded to the study's function. In referring to social capital, or social networks and norms, the terms were considered interchangeably to refer to norms within social networks which assist teachers to use the Internet for professional development. Hereon, themes related to the understanding of social capital in this context were reviewed. These themes were (a) the perceived needs for social support, (b) the sources of social capital, (c) social capital as social networks, (d) social capital as norms, (e) social capital for social mobility, (f) impediments to social mobility. This final topic was addressed because not all rural Guatemalan teachers have felt the need or desire to assimilate with the host society (Consejo Nacional de Educación Maya, 2007). This section will elucidate how this could affect their attitudes about taking the steps required to learn about and utilize the Internet for professional development, a process which, for some Mayan educational leaders, represented an aspect of "foreign technology which threatens us and induces us to consumption, contamination and acculturation" (Consejo Nacional de Educación Maya, 2007, p. 107, translated from Spanish).

Bonding, Bridging and Linking Social Capital. Putnam's introduction of a differentiated look at social capital, in forms distinguished as bonding and bridging, opened up research about the density and availability of social supports for functioning

within society, (Putnam, 2000) and these concepts were incorporated by World Bank researchers for application in developing nation contexts. The World Bank's Woolcock (2002) enriched Putnam's differentiation of social capital sources and functions by adding a third form to the polemic, with the addition of a new term-linking social capital. His adjusted descriptions of the three sources of social capital became:

Bonding: connections to people 'like you', (similar to, but not synonymous with "strong ties"), associated by survival-"getting by"; *Bridging*: connections to people "not like you", (similar to, but not synonymous with, "weak ties"), associated with mobility-"getting ahead"; *Linking*: connections to people in positions of power, used to leverage resources-access to banks, courts...(p. 3)

Woolcock (2002) also discussed linking social capital as social resources outside of the individual's social sphere, and these include international contacts. These three views of the sources of social capital were seen to be valuable for the proposed study to distinguish the influential impact of peer, local and international contacts upon usage of the Internet for teacher professional development.

Kavanaugh, Reese, Carroll and Rosson (2005) shed light on the role of ICT experts in a U.S. setting as an example of bridging social capital. They discussed bridging social capital as "weak ties," (p. 119) referring to the potential of these experts to provide assistance to local individuals whose knowledge of the Internet is weaker and who can benefit from the association. Their comments concur with Woolcock and Narayan (2000) in the assertion that a community is strongest with a combination of bonding and bridging social capital. As application to the present study, the expertise of an IT expert who is present in a rural community of the developing world would represent a source of

bridging social capital which could aid a novice teacher in understanding or valuing Internet technology.

Woolcock and Narayan (2000) contrasted the intrinsic value of two sources of social capital for application to vocational or social success. They characterized bonding social capital sources among the rural poor as “close-knit and intensive (relationships)” (Woolcock & Narayan, 2000, p. 227) which are used for maintaining social stability and mutual support, but which are probably much less valuable than the bridging social capital used by others for socioeconomic mobility, characterized as more powerful by its nature as more “diffuse and extensive” (p. 227). They suggested:

Accordingly, such an approach allows the argument that it is different of bonding and bridging social capital that are responsible for the range of outcomes... and incorporates a dynamic component in which optimal combinations of these dimensions change over time...(and) it recognizes that individuals...(as members of a given community) can nonetheless appropriate social capital. (Woolcock and Narayan, 2000, p. 227)

These statements were important to the conceptualization of social capital as norms within social networks in that they suggested that the individual might possess or utilize different quantities or qualities of bonding and bridging social capital to produce unique outcomes within a community or social group. For participating teachers, individual social connections and use of those connections might produce strikingly different outcomes in usage of the Internet and the benefits derived from that experience.

Additionally, this justified the value of individual interviews as the basis for this research, followed by the implementation of an analysis of the sources and uses of social capital according by the larger educational community, by interpreting summary statements of

each individual teacher's experience, as was realized in the participatory rural appraisal, detailed in section 3.

Kavanaugh et al. (2005) contributed that "communities with high levels of social capital are likely to have a higher quality of life than communities with low social capital" (p. 119). In terms of the source of this social capital, they concurred that a combination of bridging and bonding social capital sources made for a dynamic environment for community change:

Communities with "bridging" social capital (weak ties across groups) as well as "bonding" social capital (strong ties within groups) are the most effective in organizing for collective action... When people with bridging ties use... the Internet, they enhance their capability to educate community members and to organize, as needed, for collective action. (p. 119)

These statements correlated fully with the assertions of Van Bavel et al. (2007) that social capital was an effective catalyst for diffusion of ICT within a community.

Bordieu's contentions were consistent with those of Woolcock & Narayan (2000) and of the researcher to show that individual initiative, opportunity and preference could affect positive outcomes in how social capital is employed:

Social capital is an attribute of an individual in a social context. One can acquire social capital through purposeful actions and can transform social capital into conventional economic gains. The ability to do so, however, depends on the nature of the social obligations, connections, and networks available to you. (Bordieu quoted in Sobel, 2002, p. 139)

Bordieu made it clear of the importance of the availability of social capital in specific forms and qualities related to the individual's goal for socioeconomic advancement. If the individual should have no plans for economic improvement or if social network ties needed to learn and develop in Internet skills is not present, then there would be no

progress. This concept tied directly to the purposes of this study, which is to evaluate how rural Guatemalan teachers evaluate social capital influences to utilize the Internet for professional development-a process which they might expect could stabilize or improve their employment.

In his study of social capital for agricultural development in rural Guatemala, Durston (2002) pointed out that campesinos (farm workers) and members of their rural communities shared high degrees of bonding and bridging social capital for farming, harvesting and marketing produce, creating high levels of satisfaction and cohesion in the community. He suggested that among campesinos, social capital was an essential element of societal stability, and was omnipresent. The researcher suggested that this might be so because rural Guatemala had been the site of an agricultural economy for thousands of years (Hammond, 1991), and its mountainous landforms provided the resources and infrastructure for building of an agricultural-based economy but also promoted close, bounded relationships which grew out of exclusion from the host culture (Fazio, 2007). Resources such as the Internet were found to be relatively more difficult to obtain as they were imported from a foreign and relatively distant urban culture and required social supports (bridging social capital) to learn to utilize a scarce technology (Rutherford et al., 2004).

Social Capital as Social Networks. It is coherent to suppose that seeking knowledge about the Internet through networks of social capital which, by nature of their origin, are from outside the local rural cultures, might increase expectations placed upon teachers within local social networks. Although some teachers might respond favorably

to these changes, others might resist (Parilla de Kokal, 1999). The potential for acceptance or rejection within social networks might cause teachers to embrace or reject in varying degrees, a free Internet-based professional development program, such as described for this study. The researcher's assertion, correlating with the contents of many of the teacher interviews, was consistent with Fazio, who, referring to the historical exclusion of indigenous Guatemalans from upward social mobility, states:

[I]t is very difficult for them to engage in economic activities that are different from the typical activities developed by their family and communities, which leads to further inhibit upward mobility across generations... (and) to reproduce the disadvantaged occupational pattern inhibiting upward mobility across sectors and occupations in the community. (Fazio, 2007, p. 1)

Thereby, it also became clear that, in some way, the interview process with teachers needed to probe for understanding of the existing social ties which either positively or negatively affected their decisions to use the Internet, and was designed to follow that trajectory. That process could be interpreted through an understanding of the social networks feature of social capital, as applied to rural Guatemala. The study, realized in a town of rural Guatemala, could reveal significant new information about how social networks function in such an environment. About this subject, Fazio (2007) postulated:

Among indigenous peoples the role of social networks can become particularly relevant, given the strong attachment to community values embraced in the culture that indigenous Guatemalans have managed to uphold throughout the exclusionary process. (p. 1)

The same social networks which helped indigenous peoples seek "access to land, credit, markets, employment and recognition of their rights" (Fazio, 2007, p. v) could be engaged to promote participation of teachers or other individuals in online learning resulting in benefits to individuals and communities.

Fazio called for entities to “coordinate and cooperate with... social networks in the indigenous community... to build more bridging capital by exposing disadvantaged communities to models of strategies for development.” (p. v) This and previous citations made for collective evidence of the need to understand each participating teacher’s social network associations, both to understand the effect of these networks and to understand the qualities which might enable an organization to integrate with their goals and values in order to promote online teacher development in the community chosen for this study. It also signaled the possibility that the sources of social support to be most cited by the teacher participants might be those which represent bridging social capital-individuals who can aid in transferring knowledge of IT skills and their value between another society and the local community.

Social Capital as Norms. Fukuyama contributed that social networks could not exist in “traditional culture-social groups like tribes, clans, village associations... (without) norms... and us(ing) these norms...to achieve cooperative ends” (Fukuyama, 1999, p. 3). However, he referred strategically to norms mutually agreed upon within networks of bonding, or peer group, social capital. This is an important issue, because Fukuyama stated that the idea social capital in traditional (indigenous) cultures usually represented “economic modernization” and practices “antithetical to traditional culture” (p. 3). Social networks might not thrive without trust, so according to Fukuyama, traditional (indigenous) social-groups, such as found in Latin America, were less likely to enjoy the benefits of extended social networks. However, this might not apply to associations generated over the Internet, as “changing technology changes forms of

association” (p. 7). Fukuyama’s assertion is fully consistent with Van Bavel et al. (2007) in their indications that ICT can serve as a conduit for new forms of social capital which can accelerate the proliferation of interest and knowledge about ICT in communities of the developing world.

Although not a feature of the study, it could also be valuable to find out how teachers participating in the study responded to questions comparing their online and in person social contacts, and the benefits of such associations, as it would have allowed the comparison of all three sources of social capital: bonding, bridging and linking. Nevertheless, Fukuyama’s observations help to contextualize the meaning and purpose of the study. Fukuyama asserted, “a modern society may be thought of as a series of concentric and overlapping radii of trust... rang(ing) from friends and cliques up through NGOs...” (p.3). The idea of associations of trust was found to be synonymous with social networks. A graphic analysis of how these networks overlapped within the experience of one individual and groups of individuals could reveal the presence of “...weak ties, that is heterodox individuals at the periphery of the society’s various social networks who are able to move between groups and thereby become bearers of new ideas and information” (Woolcock & Narayan, 2000, p. 4). In interviews conducted for this study, some individuals were identified possibly as experts in ICT who offered guidance and support, insights and motivation for using the Internet.

Having established the above referenced factors of trust (norms) and networks as key concepts in the evaluation of responses about teacher Internet usage, proposed for this study, the effect of the community upon employment of social capital for social

mobility through professional development merited examination. This topic was studied in two stages- a review of the factors which encouraged individuals to seek knowledge and guidance to achieve social mobility through partial or complete assimilation with the host society, and a discussion of social influences which inhibited this same type of social progress.

Rather than a divergence from the theme of social capital, this discussion of its relation to assimilation was considered essential because it opened up an understanding of real forces, under the modicum of social capital, which might be referred to directly or inferred in these interviews. Glaeser, Laibson and Sacerdote explained that “the relationship between income (or education) and social capital investment is uniformly positive” (2001, p. 25). Ibañez, Linder and Woolcock, in a study of social capital in Guatemala, assert that “the likelihood of an individual participating in most types of groups (which provide social capital) increases with education... (and) those who are better educated are more likely to participate in bonding and bridging organizations” (2002, p. 18). Following this reasoning, the motivation of rural Guatemalan teachers for improving income or educational attainments could be connected to willingness and interest in employing social capital for professional development online.

Perceived Needs for Social Support

Social capital was recognized as a resource for collective action (Dudwick et al., 2006). Identification of perceived needs for social support in the form of social capital could unlock understanding of why provision of ICT resources in a community technology center might not guarantee usage (Crump & McIlroy, 2003; Foth, 2003). One

possibility was the assertion of a need among rural populations for assistance from ICT experts (Goodman et al., 2001), consistent with indications that ICT experts in a community perform the role of providing bridging social capital for less-skilled or less-informed group members (Kavanaugh et al., 2005). Perhaps this could explain why, even after provision of free Internet resources, as in the case of this study, some teachers might choose not to participate. Researchers of Internet usage in remote Alaskan regions bring out salient points about reactions of village populations to the prospect of Internet adoption, leading to the assertion that non-usage could be at least partially attributed to the assistance of perceived ICT experts. The researcher correctly expected that interviews conducted for the study would produce data consistent with the following description of Internet usage in an Alaskan village:

One of the most glaring problems we observed in all of the villages we visited was slow movement up the learning curve for the local populations. There was considerable receptivity to and curiosity about the Internet. Almost all the users we met spoke well of their experiences and of a desire for more frequent and extensive use. But most people, especially in the smaller villages, were struggling with basic applications and often complained of slow connections. They didn't have people available who could help them, either in person or online, except perhaps with only minimal technical aid. Having even one knowledgeable, enthusiastic, local "guru" can make a significant difference in making the Internet more rapidly and effectively utilized. (Goodman et al., 2001, p. 25)

ICT experts who were “available” and “could help... in person” (p. 25) to resolve Internet concerns were found to be a priority in the rural, isolated setting of the study. It is evident that teacher informants in the proposed study could likewise be asked to comment on whom they seek out for assistance when Internet usage issues became daunting. The notion of expert social capital as a prerequisite for Internet use was consistent with Attewell’s description of a second, psychological, digital divide (2001).

Identification of the sources of expert social capital which might best meet perceived needs was an important goal of this study.

Social Capital for Social Mobility. Coleman (1988) indicated that social capital bore multiple meanings and potential applications. Lin's analysis (1999) proved to be very highly regarded for solidifying the discussion of its operational meaning, which for this study has been proposed as norms within social networks (Woolcock & Narayan, 2000) and bonding, bridging, and linking subcategories (Putnam, 2000; Woolcock, 1998; Woolcock, 2002). Lin erased artificial boundaries between related types of capital and tied the origin of three-human, cultural and social-to classic concepts of physical or material capital, indicating that all forms of capital represented an interchange of resources to promote benefit. Lin counteracted the proposition that the host society retained the means of production and thereby used it to maintain economic control. She portrayed social capital as a conduit for skills which might be applied to produce goods or services to which the host society assigned merit and compensation, both of which could lead to socioeconomic progress. Education was identified as an example of a forum for learning these skills (Lin, 1999).

Bourdieu and Yossa agreed on a social capital tenet that absorption and reproduction of skills and attributes of the host society contributed to social mobility (Bourdieu, 1983; Yossa, 2005), and this tenet concurred with Simpao's notion of structural assimilation (Simpao et al., 2005). Structural assimilation was "defined as the process whereby minority group members gain entrance into the groups and institutions of the broader society and can be regarded as the most critical element of the overall

assimilation process” (Simpao et al., 2005, p. 1235). Poor individuals sought assimilation because they experienced dissonance in a quest for social status, who, “when... social rewards are allocated based on income or consumption... (will) commit greater resources to status seeking” (Oxoby, 2004, p. 728). Improved pay or prestige for increased teaching capacity were two social rewards which bore potential importance for the rural Guatemalan teachers who were designated to participate in this study.

Thereby, ICT carried the potential as a conduit for structural assimilation of teachers who were geographically isolated, and represented a form of social justice for those who sought more or better resources. These tenets were consistent with the concept that rural Guatemalan teachers might improve not only their teaching effectiveness, but socioeconomic progress, by participating in professional development processes, sanctioned by the host society, and by an international educational network accessible through the Internet. It is the distinction of these two sources of professional progress as sources of linking social capital that particularly interested the researcher, because, when considered in the study’s context of a remote rural village in Guatemala, they would be unavailable without ICT, and might possibly be mentioned as sources of motivation or support for Internet usage.

Impediments to Social Mobility. The poor, including poor teachers, who might seek structural assimilation through education could face unique challenges and potential material and existential losses. The portent of such experiences might deter their decision to take the actions necessary for achieving their educational and socioeconomic goals through online education. This is because certain achievements were seen as unattainable

by some among the poor, who, consequently, would “change the characteristic (goal) they subjectively deem status worthy” (Oxoby, 2004, p. 728). This might be generally valid for any person, independent of socioeconomic status, whose self-assessment was colored by the value they placed upon achievement and its consequences, and whose beliefs about oneself, or self-knowledge, might affect diligence leading to accomplishments:

In addition to general self-knowledge, individuals also have beliefs about their motivation. These include judgments of their capability to perform a task [self efficacy], their goals for completing a task [learning or just getting a good grade], and the interest and value the task has for them. (Pintrich, 2002, p. 4)

This disinterest in goals due to their perceived unattainability might be a motive for rural teachers to ignore opportunities for free professional development online. These beliefs might be perceived as realities for Guatemalan teachers who have not elected to try to use the Internet for professional development.

Personal values were also found to dampen interest in separation from a traditional society which was known and treasured to integrate into the broader society, as “(those) who are less functionally integrated into the broader ... society may be able to function with less difficulty in their daily lives than those who are more integrated” (Simpao et al., 2005, p. 1238) This phenomenon was attributed to “the greater sense of cohesion, belonging, protection, and social support believed to be provided by (their) traditional... society” (p. 1238). These factors might be a key to explaining why the poor may choose to maintain their lifestyle despite clear opportunities and supports for change proffered by benevolent entities.

Consequently, interviewing of teachers included the option of inquiring about teacher goals for achieving a better education, to discover the relationship of these goals to seeking social support to use the Internet. As an example drawn from the proposed study, some rural Guatemalan teachers might seek professional development as a bridge to a teaching position in a city setting, and might also be planning to shed traditional clothing and customs which marked them for potential rejection for teaching positions within a metropolitan setting such as Guatemala City, but this type of data was never revealed in any of the interviews. It could be that the study would show that teacher attitudes related to social mobility or assimilation could influence the value they assign to sources of assistance to achieve it (Henry et al., 2005; Oxoby, 2004; Simpao et al., 2005), within this study characterized as bonding, bridging and linking social capital, however answers in interviews gave little indication in the negative or the affirmative. It could be that teachers who might seek assimilation into the host society would assign value to linking capital, in the form of direction and endorsement from extra-societal sources which they felt imbued them with greater power to achieve their goals (Oxoby, 2004), and the findings bore this out with ramifications.

Social and cultural changes experienced as a part of acceptance by the host society were found to dismay individuals who were, to some degree, economically progressive yet “characterized as pessimistic or disenchanting with the traditional mechanism of social recognition” (p. 738). Family or friends who did not recognize the value of effort to obtain educational credentials could engender discouragement by seeking to limit or debunk plans and to incur guilt through sarcasms and slurs (Parrilla de

Kokal, 1999), further separating the educational achiever from social and cultural ties which promoted a sense of value, belonging and importance. These concerns might have dissuaded teachers from committing to a professional development program online and might cause them to avoid seeking assistance from peers because of concerns over rejection or ridicule.

Teachers who chose not to participate in a professional development program online might have experienced concerns about potential exclusion by peers in education and within the community who ridiculed their goals for advancement. The phenomenon might perhaps be universal:

If schools reflect society, then there are those who... do not realize the cognitive dissonance and futility of "crossing over." They seem blinded to the self-esteem damage and danger in playing a game in which you must first deny your real identity and then regress to disavow the history of your family and people... to be accepted by the dominant group, you must internalize the shame doled out... to yourself, your relatives and your children... Then, you must live with the marginalization from your ethnic group. (Parilla de Kokal, 1999, p. 2)

These reflections represented potential peer ostracism for those who were educated by entities which represented the values of the host society.

Alternative concerns might arise for teachers who aspired to move away from a rural setting to a large town, or to commute in search of higher education, as for example, might be the case of rural Guatemalan teachers, most of whom spoke a Mayan language, seeking to be educated in Guatemala City, a three-hour drive from San Lucas Toliman. Henry, Stiles and Biran (2005) pointed out that often, individuals who might leave familiar circumstances, seeking survival and progress "lose their values, traditions, native songs, familiar food... social status, significant relationships... financial security,

...familiar patterns of being and relating to people, (and)...safety and connectedness to others” (p. 110). Furthermore, an existential sense of alienation derived from the “loss of the mother language... (which possibly) involves incorporating new values and ideals that may affect the development of one’s identity” (p. 110). This aspect directly applied to the life circumstances of not all rural Guatemalan teachers participating in this study, but to some of those among them whose first language is Cakchiquel, Quiché or Tzutujil. Multiple cultural and social losses were found to be inevitable for those who found it necessary to travel to less familiar surroundings in order to survive, and unexpected for those wanting or needing socioeconomic progress. These circumstances might prove unsettling.

As a side effect, in line with Oxoby’s (2004) key tenets, even those among the poor who obtained access to relatively unique educational resources such as online learning could experience ambivalence about increased economic stability, new relationships and freedom in decision-making about life circumstances. Oxoby’s insights shadowed Freire’s (1971) observations that, in the process of adopting the values of the governing society in order to survive, a member of a lower or subjugated class may possibly abandon a certain critical consciousness (*conscientização*) and seek to join the ranks of the host society’s elites. That process, identified by Freire, represented the transformation a teacher may undergo if seeking professional development online in order to qualify for a better job or higher education in a city culture.

Literature described assimilation into the host society as an attractive prospect for many, but not all, among the poor. Those who sought assimilation recognized education

as a gateway to new economic and social opportunities. There were, however, some among the poor who would, in self-derision or ignorance of real opportunity, protest their inadequacy or the futility of educational aspirations. Additionally, because of multiple negative consequences portended by assimilation, some among the poor might postpone or avoid improved educational opportunities as a conscious choice to preserve ties of family, friends and way of life (Henry et al., 2005), or acquisition of new values, commitments or bars of judgement they perceived as threatening to their way of life (Laungani, 2005). Finally, literature showed that there are those who obtained an improved education and benefitted from it, yet, in the process, abandoned relations with friends or family who decried its value or expressed their rejection of the postulant's goals, yet this effect did not seem to be consistent with the rural values of the teachers interviewed in this study. Nevertheless, these concerns shed light on ambivalent attitudes about the value of education as a mechanism for assimilation, about which the potential for alienation from self and former society was drawn into harsh view.

Research Linking Social Capital to Developing World Internet Diffusion

Sufficient evidence suggested that, despite the availability of bonding, bridging and linking social capital sources for the 34 teachers of San Lucas Toliman invited to participate in free professional development online, some of these teachers might neglect the opportunities for social capital due to concerns over the potential repercussions of social mobility. This discussion led the researcher to question if teachers are aware or concerned about the positive and negative effects of assimilation through education, and how those concerns might affect their answers about willingness or interest to use the

Internet for professional development, and a research question was composed as a basis for an interview question related to this issue.

The discussion of social capital emphasized its role as a catalyst for adoption of new practices in rural communities of developing nations. Its characterization, as norms within social networks, focused on the nature of social capital as a relational, value-sharing resource. Identification of the sources of social capital-bonding, bridging and linking-and uses of the same for support in the adoption and reproduction of economic rewards, added value to the process of obtaining teacher professional development, and further motivated some to improve Internet usage. However, online interaction for learning might not have been uniformly accepted, as some individuals might not feel comfortable with long-distance written communication via ICT. Chang alleged this in his study of Internet interactions between mentors and learners in the Pacific region (2004):

While virtual interactions may bridge physical spaces, they do not always successfully erase social and psychological distances between participants to allow for trusting relationships to develop. This is because the faceless and disembodied nature of cyber-communication makes it difficult to feel a sense of commitment to a project or bond with a person. The time lag... also means that synchronous interaction is not always convenient for either party. (p. 179)

Despite assertions of the Internet as a valuable conduit for the spread of social capital, the role of linking social capital (vertical influences from outside the potential adopter's society) might be considered by this study's respondents to be too far removed to exercise influence which promotes trust and interaction.

Randolph and Krause (2002) underscored the need for students to provide mutual aid in learning how to utilize technology, which can be clearly redefined as a source of social capital in networks. They specifically pointed up the importance of helping social

work students to become comfortable with Internet processes and computer hardware as a prerequisite for online learning:

Previous research has shown that lack of knowledge about and discomfort with computers can negatively affect student attitudes toward the use of technology... Thus, the purpose of the first exercise was to help students increase their level of comfort with their computer, the Internet, and the course website (p. 1).

Their comments accentuated the need to understand what might be behind an experience of discomfort with the Internet, a form of technology innovation which, although potentially accessible to all, was limited by the buying power of markets (Goodman et al., 2001) but also by the perceptions of potential adopters. Rogers's theories of diffusion of innovations and, in particular, perceived attributes of innovations, shined a valuable light upon these processes.

Studies of diffusion of technology in the developing world, of diffusion of innovations and of social capital were highly compatible in their findings. All asserted that change takes place within social systems promulgated by individuals who provide information and opinions which influence the spread of change. All also recognized that change cannot be imposed in rural sectors of the developing world, much of which is populated by indigenous peoples, rather it must be adopted through internal processes of acceptance based on perceived utility for meeting needs agreed upon within the local society. Finally, all made reference to the need for individuals who could serve as a resource for adopting ICT practices and provide motivation and guidance for applying usage of a new technology to a practical goal which might be perceived to be of value.

Literature discussed issues affecting the extent and quality of diffusion of Internet technology in the developing world, including political will, political endorsements, and

availability of supporting infrastructure. Literature also proposed reasons for acceptance or rejection of Internet technology by people in rural sectors of the developing world and suggests what social factors could enhance usage, including involvement with IT active peers and availability of IT experts. Literature also recognized that provision of access alone would not guarantee usage. Literature which was found within a range of disciplines, including diffusion research, indicated that factors which promote or deter Internet access or usage in developing nations would always be promulgated within social networks, and that the Internet can serve as the conduit for social capital as a catalyst for the diffusion of Internet technology within social networks in developing nations.

Literature also identified the inhibiting factors within social networks which individuals in developing nations must address when making choices about pursuing educational opportunities which lead to social mobility. Although only one article was located which links social capital to Internet access or usage for teacher training or teacher professional development in the United States (Frank et al., 2004), no links to professional literature were found for these subjects in relation to any sector of Latin America or other regions of the developing world, and few links to actual research studies about ICT and teacher education in these regions (Creed & Joynes, 2005; Lorenzetti, 2004; Trucano, 2005). Although intergovernmental organizations (International Bank for Reconstruction and Development, 2006, 2007, 2008; International Development Research Centre, 2007; United Nations Educational, Social & Cultural Organization, 2002 and 2003) promote the importance of capacity building of teachers

through ICT, the documents are, by in large, policy tracts or promotional narratives with a marked absence of quantitative or qualitative data generated through site research.

As an example of such, the closest subject area about which actual projects were reported for sites in the developing world, in the researcher's literature search, consisted of narratives about how to offer teacher training online. In 2002, UNESCO published a manual, *Information and Communication Technologies in Teacher Education* (United Nations Educational, Scientific and Cultural Organization, 2002). This manual overviewed the need for using ICT in teacher education of rural communities and of developing nations in general. One of the key case studies featured was a description of the receptiveness of teachers in South Africa to an online professional development project, the SchoolNet Programme, developed by a local educational administrator. No evidence was presented regarding the methods used to conceive the program or its delivery, but did make mention of the essential step of making an emotional connection with each teacher as a precursor to instruction (United Nations Educational, Scientific and Cultural Organization, 2002, p. 99).

The World Bank's website, *infoDev*, clearly buttressed the author's assertion that very little actual site research had been conducted to date in the developing world for exploring these subjects.

Recent work at *infoDev* created a series of Knowledge Maps of what is known and what isn't about ICT use in education. These knowledge maps reveal that, despite a decade of large investment in ICTs to benefit education in OECD countries, and increasing use of ICTs in education in developing countries, important gaps remain in the current knowledge base. (International Bank for Reconstruction and Development, 2008, ¶ 1)

Specifically, it was stated:

In addition, there appears to be a dearth of useful resources attempting to translate what is known to work and not work in this field for policymakers and donor staff working on education issues in developing countries, especially those issues related to Education For All and other education-related Millennium Development Goals. (§ 2)

Additionally, a quote from the World Bank's *Knowledge Maps: ICTs in Education* (Trucano, 2005), downloaded from the *infoDev* website, revealed the weak state of research on ICT for education in the third world:

Locating and identifying the uses of ICTs to benefit education in developing countries is a tedious, difficult, time-consuming and ad hoc task... (and) no standard reference or methodology exists for identifying such (sources)... Little such data exists for LDCs (less developed countries), and essentially none for countries most at risk of meeting education-related MDGs (United Nation's Millennium Development Goals)... Some areas for further investigation and research (are)... How should ICT components in education projects... be identified and quantified? (and) How does access to and use of ICTs outside school impact the use and impact of ICT use in school? (p. 27)

This author's search for academic literature which linked the subjects of social capital, ICT or the Internet or online education, the developing nations and teacher training or teacher professional development confirmed Kowch's claim of the absence of research tying these subjects and of the need to explore their connections (Lorenzetti, 2004). In short, literature was silent about qualitative or quantitative data to describe relationships or effects of social capital upon Internet usage for teacher training in any developing nation, and no research studies linking these subjects was found in an extensive search conducted by this author from 2005 through 2008.

In the wake of this discovery, the researcher turned to a search of qualitative and quantitative research studies which addressed all aspects of the phenomenon, less the

concept of social capital. What resulted was a limited, but rich trove of research studies drawn from developing nations in Africa and Southeast Asia and in Guatemala. What was most compelling about the results was their direct correlation to this study's research questions. The results of this study will show if the propositions of each cited study were confirmed, modified or rebutted within a specific community of practice in rural Guatemala. With this in mind, the following eight studies of teacher training and ICT practices were reviewed. Additionally, the absent factor-social capital-will come into play for its potential to explain how social networks and the norms they have transmitted may have affected results in that setting.

Studies of Online Teacher Training in the Developing World

Two studies which originated in South Africa and Hong Kong both addressed the incorporation of student concerns for learning in an online environment. Henning (2003) studied the cognition of six adult online learners in South Africa who participated under her tutelage in an Internet-based writing course. Their concerns about use of the Internet could be utilized to inform the design of "enabling courses" (p. 1) and course environments which would facilitate the transition to the use of Western epistemologies in gaining and demonstrating knowledge (p. 4). Six South African adults were selected from a cohort of thirty-three master's level students in a purposeful sample. All six were uninitiated in the processes of online learning, were indigenous, lived in semi-rural or rural environments, and spoke a minimum of three languages, including an indigenous language and English. Henning utilized their narratives, culled through discussion posts,

face-to-face interviews and journal entries, to demonstrate the self-perceived challenges of indigenous adults about studying online.

This case study utilized principles of the participatory rural appraisal to identify parameters for course design improvements based on the priorities of learners in rural sectors of a developing nation. The study's results demonstrated: (a) similar perceptions of discomfort and distraction related to Internet usage based on inexperience with computers and other forms of ICT, (pp. 6, 7 and 9) (b) feelings of helplessness and disorientation in relation to the instructor due to unfamiliarity with long-distance written interaction, (pp. 6, 7 and 9) and (c) differing manifestations of support-seeking including recommendations for a self-help training text, and an introductory training course (pp. 7-9). Henning concluded with a proposal that in similar learning contexts, course websites, in contrast to the required technicalities, need to symbolize a "virtual home and an identity" (p. 12) for the indigenous or rural learner, allowing them to construct a mental bridge to learning and achieving in ways which are potentially alien to their worldview.

In a study in Hong Kong (Cheung, 2002), teacher concerns about the use of educational technology innovations for a school-based assessment, the Teacher Assessment Scheme (TAS) were studied. The data to be developed through this study could serve the purpose of informing a variety of studies or projects related to the improvement of usage of educational technology innovations. Cheung proposed that understanding the elements of a given system of educational technology most in need of change was of priority when studying these concerns and that studying these concerns according to the words and opinions of those affected by the innovation was the ideal

approach to studying the issue. This was a mixed methods study comprised of a scaled questionnaire and an open-ended survey. Two-hundred ninety Hong Kong teachers who had participated in formed the sample for the initial phase of this study. Cheung revealed that the participating teachers represented a convenience sample and stated that they comprised three groups: non-TAS teachers, teachers with TAS experience ranging from three to six years, and teachers with more than six years of TAS experience. A 24-item questionnaire for identifying the degree of concerns with rating on an 8-point Likert scale was distributed. Fifty-three Hong Kong teachers completed an additional open-ended written questionnaire.

Cheung's Stages of Concerns model was used to pose questions on the two instruments monitored teacher perceptions about the Teacher Assessment Scheme component of a school-based assessment educational technology system. The questionnaire analyzed item-total correlations and alpha coefficients to rate respondent's questionnaire for internal validity. The open-ended survey responses were used to triangulate the questionnaire data in the form of enriching the meaning of those data. Results of the study indicated that previous experience with an innovation related to educational technology directly correlated with volume of concern as an S-curve on continuum of six progressive issues, from most basic to most complex: (1) indifference, (2) informational-personal, (3) management, (4) consequence-collaboration, and (5) refocusing. These findings indicated the type of assistance or support which would be most beneficial to teachers for resolving their concerns about a technology innovation according to their years of previous experience with the innovation.

Two studies included discussions of public school teacher training through distance education in Guatemala. Creed and Joynes (2005) asserted that the paucity of effectively designed research about developing world distance education, particularly as tied to the improvement of primary education is a leading factor in the slow growth of distance education, including the media of radio, television and the Internet, for rural public schools in the less-developed countries (p. 6). Under the auspices of UNESCO, they conducted a comparative review of the minimally available literature on the subject in eighteen nations, including Guatemala. Key conclusions of the study included a consistent finding that primary school teachers did not feel that a program of study consisting solely of online education could meet their learning needs. It was recommended, instead, that a balance between online and face-to-face learning experiences could facilitate access to instructional processes in a coordinated program of local mentoring and follow up (p. 11).

In the second study, which focused exclusively on Guatemala, Caniz targeted issues of improving access to adequate educational technology for Guatemalan secondary schools. The purposes of his study were to (a) assess available educational technologies, including the Internet, (b) understand teacher, student and community leadership goals for educational technology in the target schools, and (c) gather data for future planning to increase access to educational technology and to improve teacher training for its usage (Caniz, 2006, p. 7). Teachers, students and community leaders tied to five secondary public schools in the municipality of Totonicapán, in a Quiché-speaking rural region of Western Guatemala, were interviewed for the study. Three research methods were

employed: (a) context analysis and participation observation, (b) survey of 140 students and (c) semi-structured interviewing of 9 teachers. All participants are reported to have been selected randomly.

Depending on the native language of the participants, the surveys were conducted in one of two languages—Spanish or Quiché (Mayan). Results included the consensus of the need for more ICT projects in the target schools (p. 11), and the general lack of experience using computers or the Internet over a period of five years or less. It could be that the relative innovation of not only computers but the Internet in rural Guatemalan public schools could account for the almost 90% of the teacher and student population having no experience with the Internet earlier than 2001. This study also provided valuable clues to how to better communicate with teachers about the connection between Internet usage and their own perceived professional development needs. Most surveyed stated that they would of course prefer Internet connections at the local school of employment, but would be willing to pay for Internet services if they were to be provided by a local business entity.

In Nigeria, a study was conducted to determine student attitudes and perceptions about online learning in comparison with traditional classroom instruction. This study revealed the thinking of a sample of students asked to express preferences for study with an online instructor in comparison with the personal contact offered in a face-to-face setting (Olugebenga Ojo & Kayode-Olakulehin, 2006, p. 1492). The study was conducted to compare satisfaction with a program at the National Open University of Nigeria (NOUN) in comparison with conventional universities.

One hundred twenty randomly-selected students from NOUN and the National Teachers' Institute (NTI) responded to a NOUN-developed document, the Students' Attitude and Perception Rating of Open and Distance Learning Institutions Inventory (SAPRODLII), a questionnaire featuring Likert-style ratings. The results of the study showed that NOUN students and NTI students held an equally positive perception and attitude toward online learning compared to traditional learning. While at first glance, it might have seemed that these results were unrevealing, they indeed have indicated the value of establishing online universities as an equal alternative to traditional universities. What was not clearly discussed, however, was the greater amount of face-to-face support available to distance learners at NOUN (p. 1494), asserted by respondents that counseling and support are much better than in traditional university settings (p. 1496). Although unclear in its analysis of comparisons between distance learning and traditional settings, this study did indeed rectify an assumption that distance learners should be expected to function independently to achieve their learning goals, rather social supports were essential to persistence and completion of coursework. Aside from the role of counselors, this study did not effectively clarify the nature of other social supports.

A study in Malaysia approached the concept of social influences upon online learning from a very fresh perspective. Gülseçen and Kubat (2006) showed that with proper initial guidance, teachers in training can function with relative independence in an online learning mode. They compared independent learning about ICT using Problem Based Learning (PBL) with traditional teacher-student roles for the same function in an alternate setting. The study was conducted in two phases. The first, a case study, involved

111 students selected in a purposive sample from a university's department of education some of whom undertook the PBL program, and some of whom learned about ICT solely through teacher-student relationships. The second phase of the study measured attitudes of 79 students, drawn from the same sample, and was rated quantitatively.

During the first phase of the study, student experiences with ICT in both PBL and traditional groups were recorded through observation and interviews. Some of the participants became identified as "technophobics" (Gülseçen & Kubat, 2006, p. 98) through their frequent negative responses to ICT-related tasks. During the second phase of the study, students took part in three tests to rate their skills at managing ICT for learning and achievement. Results demonstrated that students who participated in PBL to adapt to the Internet and other ICT functions self-rated just as highly or better than the students who had taken the more traditional "Introduction to ICT" course. With relationship to the value of social influences, this study showed that teachers in training can perform equally well on ICT-related tasks as their counterparts who are prepared to use ICT in a traditional instructional setting (pp. 103-104). The value of this study was found to be related to its recognition of the potential for teachers in training to learn on their own about using ICT, given the proper materials early on in their program of study.

In Botswana (Batane, 2004), a case study was conducted at an undisclosed public secondary school within a village. The purpose of the study was to understand the attitudes of teachers toward technology and technology training. A purposive sample of 15 teachers was interviewed, 7 of whom were not using technology, and 8 who were using technology. Also interviewed were three ministry of education officials and the

school principal. Answers from the ministry of education officials revealed an unfocused plan for invitation of teachers to participate in ICT, limited in space yet open to any grade level or subject area. Responses from teachers revealed that, although the computer lab had been set up with 20 computers, they had not been offered any training or assistance to learn ICT skills. As a result, each teacher obtained knowledge about ICT in different ways. Four teachers were found to have taken extraordinary initiative and as a result were assigned to train incoming novice teachers. Teachers trained by them reported varying levels of satisfaction. By negative example, the Botswana study shows the importance of (a) strategic planning in assignment of teachers to participate in an initial ICT teacher training program, (b) recognition and incentives for teachers who are ICT high-performers, who can act as resources for turn-key training, and (c) institution of an ICT training-of-trainers program for teacher peers.

In a Uganda study (Agency for International Development, 2006) the purpose was to determine the impact of ICT for teacher professional development in primary teachers' colleges (PTCs) and the scalability of the study, i.e. utility for generalizing the results in other settings. Teachers in a sample of 16 of the country's 47 PTCs, some of which included computer laboratories, included all four regions of the country. An assessment team conducted surveys with tutors and students, principals, deputy principals and computer lab managers, where present. Tutors and students completed a questionnaire. Principals, deputy principals and lab managers participated in interviews. Students and tutors also completed a short ICT-skills assignment. Results of the study

showed some key categories of response by students which could predict motivation for future usage of the computer lab.

Negative responses included: “I’m interested but I don’t have the time,” (p. 24) “I’m interested but I don’t have access,” (p. 14) “I don’t need to use ICT in my future teaching,” (p. 24) and “I’m interested in training but it doesn’t seem to be available” (p. 21). Positive responses included, “I’m interested in learning more about ICT” (p. 22), and “ICT seems to motivate the students to learn” (p. 24). Although the assessment team which wrote this study report that the overall results show a positive future for computer labs in the PTCs, the surveys and questionnaires indicate that students have many unresolved issues tied to access, training and utility in relation to the teaching profession. It appears that the value of this study was found in its qualitative, open-ended response format, which made student concerns apparent and which point toward increasing client-friendliness of computer labs as a key tool for enhancing participation. The study’s interviews with key administrators demonstrated that computer labs indeed levied a positive effect upon instruction, yet the impact upon student achievement was not in evidence. The detailed steps of national planning, funding and increased integration of existing computer labs could all combine to justify the implementation of computer labs in more PTCs in the nation (pp. 3, 11).

The assertions of Kowch, Trucano, Creed and Joynes of the paucity of research studies in the areas of distance education for teachers in the developing world were borne out through the preceding search for literature. These studies presented valuable data about teacher concerns about using the Internet, perceived utility for their work

environments, differing levels of social dependence or independence in learning about the Internet, and indicators of planning phases most appropriate for enhancing or expanding an ICT teacher training program. The analysis which preceded the review of these studies represented an eclectic gathering together of resources from disparate fields which all address in whole or part, the diffusion and adoption of Internet technology in the developing world for improving the education of rural teachers. Although terms vary considerably, few contradictions and many correlations were found, indicating that, in essence, this author has successfully synthesized previously disconnected concepts to generate a new level of knowledge about the subject matter-knowledge which visualized the interpretation of the input which was culled for this study. The multiple sources of the review of literature were referenced in the body of section 2 and were confirmed, altered or refuted by commentaries of teachers participating in the study, who described their relationships to Internet technology for professional development and the supports they received or hoped for to advance professionally through this process. How the phenomenon was measured was the subject of the following review, which described an approach to measurement of social capital influences in rural sectors of the developing world.

Chambers's Participatory Rural Appraisal for Measurement of Social Capital

The methodology for this study was derived from an analysis of the PRA (Chambers, 1998), a qualitative approach which has been used for the measurement of social capital in rural developing nation settings. This approach used questioning styles to bring out the opinions and priorities of indigenous and rural peoples in interviews and a

decision-making forum, to encourage endogenous, or community-driven, development practices, and was expected, in this study, to produce data to foment a new direction in social justice research about how to enhance online teacher training in this remote sector. Results of this study might enable educational decision makers of the Fundación Rigoberta Menchú Tum, and other organizations that support their efforts, to enhance planning for the introduction and proliferation of an online professional development system for rural Guatemalan educators.

Measuring Social Capital Using the PRA

The use of social relations in networks of trust to generate willpower for local change in rural sectors of the developing world was found to be the central, governing concept of community driven development (CDD), a process which emphasized empowerment of rural developing nation communities to synergize for creating plans to resolve self-acknowledged challenges. Principles of CDD, emphasized increasingly in rural development policies of the World Bank and other non-governmental organizations (NGOs) since the 1990's, were designed to build leadership among those who were directly affected and to inculcate lasting social changes by increasing ownership of decision-making through deemphasizing traditional authoritarian change structures or invasive research practices (Dudwick et al., 2006; Woolcock, 2006). Concurrently, new approaches to research interventions in developing nations have emphasized participation in communicating about, and controlling for, change, in ways which increase the potential for permanency and diffusion through social relations (Bessette, 2004; Gonsalves, 2005; Grenier, 1998; Van Bavel et al., 2007).

World Bank literature tied to measurement of social capital over the last decade, in particular, reflected a CDD paradigm, demonstrating the use of quantitative, mixed and pure qualitative methodologies (Grootaert et al., 2004), however it was notable that the two definitive discussions about measurement of social capital were published since 2004 (Dudwick et al., 2006; Grootaert et al., 2004). A key advantage of use of purely qualitative methodologies to describe rural development issues oriented to CDD, particularly those identified or supported by non-governmental organizations, was the increased impact of the personal narrative and group dialogue, as quantitative data might be misunderstood and rejected by locals and authorities (Dudwick et al., 2006), in a setting where decisions based on a personal investment in research results was essential to lasting change. Chambers's approach to the participatory rural appraisal (PRA) represented a range of assessment methods which facilitated this sense of ownership in rural communities of the developing world (Chambers, 1994; 1998).

Origin of the PRA

Originally devised as the rapid rural appraisal (RRA) (Chambers, 1990), designed to accelerate research processes of studies based in indigenous cultures of Africa and Asia, both RRA and PRA emphasized the role of the researcher as a supportive collaborator and facilitator of participants in defining the meaning of their input. A key difference between PRA and its predecessor, however was that the RRA was designed for quick work and was extractive, and as a result, participants might never know how input was interpreted or applied, whereas the duration of PRA research was open-ended and transformative, whereby participants became empowered by the data they discussed and

the researcher witnessed the process by which they reached their conclusions, which might serve to generate collaboration for their decisions from outside the community (Bessette, 2004; Chambers, 1994).

Although the principal applications of the PRA have been oriented to agricultural and environmental issues endemic to rural communities of the developing world, its focus upon community-driven development through local decision-making made it ideal for identifying solutions to the problems of teacher Internet usage as per this study.

Chambers (1998) outlined the key advantages to employment of a participatory methodology such as the participatory rural appraisal, to:

1. Enable realities and priorities of poor and marginalised people to be expressed and communicated to policy-makers
2. Enable trainers to facilitate attitude and behaviour change
3. Make normal bureaucracies more participatory
4. Build self-improvement into the spread of participatory methodologies
5. Enable people with power to find fulfillment in disempowering themselves (Chambers, 1998, pp. 1-2)

Chambers (1998) attributed Brazilian educator Freire's *Pedagogy of the Oppressed* (1971) as inspiration for the PRA, contributing to "the idea that it is right and possible for poor and marginalised people to conduct their own analysis and take action" (Chambers, 1998, p. 2). In the case of the phenomenon of low usage of the Internet for professional development in a remote rural community such as San Lucas Toliman, Guatemala, the involvement and commitment of the local community to improvement of Internet usage would be key to projecting future success. Thus, the incorporation of the PRA might bear the potential to foment a sea change in thinking and planning at the local level, about use of the Internet for teacher progress.

Gonsalves (2005) pointed out that the PRA's repertoire of potential activities allowed the researcher to selectively match technical applications to the phenomenon to be studied. Given that some of thirty-one possible activities (Grenier, 1998) were discerned as directly or highly related to measurement of agricultural and environmental issues, not all would be utilized. Those selected for the proposed study were detailed in section 3. Gonsalves pointed out that use of multiple measures within the PRA allowed the researcher to rely on divergent sources of local knowledge, and thereby diminish the suppression or distortion of input. He also noted the potential of the PRA for empowering and motivating a local social network. These effects were found to be consistent with principles of endogenous curriculum development for Guatemalan rural indigenous peoples as promoted by the Fundación Rigoberta Menchú Tum in collaboration with UNESCO and other organizations which support indigenous progress through education (Consejo Nacional de Educación Maya, 2007; Zapeta-Garcia et al., 1998).

Guidelines for Implementation of the PRA

Equal to the approach of its progenitor the rapid rural appraisal, the participatory rural appraisal sought to obtain data in a manner to facilitate decision making among groups, to "enable (them) to make their own analysis" of problems and generate unique solutions (Gonsalves, 2005, p. 36). Rather than emphasizing precision, the PRA was found to encourage understanding a phenomenon from the point of view of people involved in it, preserving the language and conceptual understandings of respondents, and feeding collaborative discussions. Gonsalves emphasized the importance of applying PRA techniques in ways which respected indigenous values, rejecting Western

interpretations which might distort input (p. 37). Contrary to Chambers, Gonsalves asserted that the PRA approach was not designed to cull data for policy making for a broader context than the study's site, but the researcher asserted that the setting of the study could have a significant impact on how easily results could be communicated with local authorities to generate local action.

Grenier (1998) laid out 31 distinct processes which could be employed under the umbrella of participatory rural appraisal. As the subject matter of much investigative work under PRA has been in the areas of agriculture and the environment, some of these processes were not to be considered. Those remaining were the following (sub-headings inserted by this researcher):

Recording of Data by Participant, Delegate or Researcher:

1. participatory diagramming
2. wealth and well-being matrices
3. daily activity profile
4. Venn diagram

Interviews:

5. types, sequencing and chain interviews
6. permanent-group interviews
7. key probes
8. futures possible

Analysis:

9. shared presentation/ analysis
10. field report writing
11. self-correcting notes
12. review of secondary data (Source: Grenier, 1998)

Of these, three activities were selected in order to triangulate measurement of teacher attitudes and thereby minimize distortion of their input by the researcher. The PRA might be carried out over time or during a short time frame. The researcher was designated to oversee the investigative process but acted solely as a facilitator of data collection and

data analysis, emphasizing the opinions and priorities of respondents. Semi-structured interview questions were found to be a key characteristic of the PRA, which in contrast to open-ended questions, allowed input from respondents to lead questioning in any direction of their choosing (Chambers, 1998). Some researchers questioned this practice (Hirschmann, 2003; Kapoor, 2002), but proponents of the PRA recognized it as essential for assuring that input of respondents is self-directed (Gonsalves, 2005; Grenier, 1998).

While World Bank researchers cited focus group discussions as an ideal setting for discussing social capital influences (Dudwick et al., 2006), Bessett (2002) pointed out that some individuals might want to maintain complete anonymity about their opinions, and might not speak up in a group setting. This might be due to gender, employment relationships or other factors. Grenier preferred to recommend, in place of focus groups, which might include participants previously unknown to each other, the holding of permanent-group interviews (PGI) (1998). PGIs could form the sole basis for implementation of the PRA or could be realized as complements to other PRA data gathering activities. It was also generally recommended that PGI discussions should not precede other PRA processes, to avoid group determinations of what other community respondents could contribute in individual settings. This also meant that PGIs should not be allowed to become a brainstorming or complaint session, but should be made as, in this case, a culminating event for finding patterns in the data obtained and interpreting implications of the same, with the focus of generating recommendations for improvement of a program or a process. In the case of the proposed study, this would entail discussions of action steps for improving usage of the Internet by teachers.

Rationale for Selected and Rejected Methodologies

Other approaches to analysis of the phenomenon of social capital influences upon the Internet usage of rural Guatemalan teachers were considered and rejected. It was predetermined that the researcher would utilize a qualitative methodology as it had become clear through the research literature that no previous studies had been conducted in the developing world linking the phenomena of social capital to online learning in any manner. As such, the researcher sought to identify a methodology which would only represent *materia prima* on which to base succeeding research studies, and nothing less than the actual words of the study's subjects could provide this basis. Two types of methodologies which were rejected were the case study and the rapid rural appraisal (RRA).

The case study approach was considered because of the indications for learning about a group of individuals within a common grouping, or bounded system. The bounded system for this study was identified as rural Guatemalan teachers who had participated in two face-to-face professional development seminars led by the researcher in San Lucas Toliman, Guatemala during 2007. Identification of the population to be studied as members of a bounded system would signal that a case study was a potential choice (Hatch, 2002).

However, case studies were defined in ways which appeared to limit the intents of this study, because the interpretation of the results, whether due to observation or direct interview, were ascribed to the researcher, through the lens of concepts chosen and interpreted by the researcher (Hatch, 2002), which might run counter to or distort the

input of a non-Western culture (Laungani, 2005). Creswell (2003) denoted the case study approach as ideal for describing processes, such as is the phenomenon to be investigated within this study. However, case studies are expected to be carried out over time, allowing the researcher to play an object observational role among the population to be studied. As the researcher was limited by finances, distance and permission for personal leave, to a single, three-week period in the summer of 2008, the case study approach would of necessity be modified, allowing less real time for observation, and perhaps dampening the quality of data to be collected and the interpretation thereof.

The researcher then looked to the rapid rural appraisal (RRA), promoted by Chambers (1990, 1992). This approach could allow the researcher to carry out a brief research expedition to what may be a prohibitive location, either due to distance, living conditions or personal security (Grenier, 1998; Gonsalves, 2005). This approach came into vogue during the early 1990's because it allowed for the quick appraisal by researchers of intergovernmental organizations and non-profit entities, of problems in rural communities of the developing world, with the purpose of incorporating the data in projects to benefit multiple communities, nations or regions. This approach seemed initially appealing to the researcher as it effectively described the travel and duration limitations, which amounted to a little under a month's total travel time. The rapid rural appraisal approach would have allowed the researcher to take quick action in the collection of data around a very specific subject and take a quick exit, relegating evaluation of the data to a location outside of the study's setting (Bessette, 2004).

The RRA might have been an ideal approach if the researcher intended to retrieve data for use by an entity outside the study's setting. However, for this very reason, the RRA gave concern to the researcher, who was seeking a method which would allow the collection of insights in the original words of subjects or respondents, but which would also be a source of motivation to the local community, responsible for deriving findings within the PGI, for resolution of the problems identified in the study. The rapid rural appraisal could not fulfill that requirement. Notably, the RRA has been challenged because of the invasive nature of the approach (Bessette, 2004; Hirschmann, 2003; Kapoor, 2002), due to the lack of consultation with informants about the meaning and patterns of their responses. Only the participatory rural appraisal would allow a brief research timeline and the community's ownership of the data for deriving findings. Also, the PRA was selected, under the conditions of a researchers' familiarity with the group to be studied, as was the case.

The PRA was also the ideal method because it allowed the use of techniques for eliciting the opinions of the respondents, not only through direct interview, but by making them the principle determiners of how the research data would be prioritized, interpreted and utilized to solve a problem understood and identified by them. Finally, in contrast to the case study approach and the RRA, the PRA recognized the challenges of rapport development which can face a researcher who is not a member of the culture or subgroup to be studied (Dickson-Swift, James, Kippen, Liamputtong, 2007; Grenier, 1998). Guidelines for implementation of the PRA indicated for the researcher to take the principle role of facilitating research by natives themselves, including the employment of

a native Spanish speaker of Mayan heritage, so that their expressions and the depth of inquiry were fomented by feelings of mutual understanding and trust, with the researcher coordinating and supporting such a process (Bessette, 2004; Grenier, 1998; Kapoor, 2002)

The preceding review of literature covered the potential concerns of teachers for using the Internet for professional development in a rural, developing nation setting, regarding macrosocietal factors related to the digital divide, and related to projected individual responses to the diffusion of a new innovation, the Internet, within a social group. The review has demonstrated the potential role and value of the concept of social capital, measured as bridging, bonding and linking norms within social networks to incur and accelerate the diffusion of acceptance and interest among rural Guatemala teachers in employing the Internet for personal progress. The PRA was discussed as the methodology for this study because of its empowering effect upon rural communities in the developing world, to increase awareness of the social forces which can be applied to increase skills and interests in using the Internet for professional development.

This review drew together eclectic sources to establish key points of a preliminary investigation of the phenomenon of diffusion of Internet technology in a remote, rural sector of Guatemala and the potential of social networks to accelerate the process of diffusion. A synthesis of disparate academic sources was generated to understand a region of the world which has not been the subject of research studies covering this specific phenomenon. Research studies, drawn from developing nation around the world, were found to cover the linkages between teacher training and ICT, without a correlation

to the influences of social capital. These elements made this study unique, and representative of groundbreaking research in a subject about which literature was silent. The methodology of the study, laid out in section 3 of this study, advanced the indications of this literature review as a basis for deciding specific elements and steps to be incorporated in the research process.

SECTION 3: RESEARCH METHOD

Introduction

This qualitative study employed Chambers's participatory rural appraisal (PRA) approach to interpret patterns in assertions of rural Guatemalan teachers about the influence of social capital (norms within social networks) upon their use of the Internet for professional development and to generate consensus among a local community of educators, including members of the interviewed group, about how to enhance their participation. In this study, an eclectic array of issues in literature has been reviewed, and these issues affect the diffusion and usage of the Internet for teacher professional development. Through the use of semi-structured interview questions, the researcher probed for understanding of the specific factors which represented supports or barriers to teacher involvement with the Internet for their professional progress.

As an aspect of social capital, the norms within social networks available to each teacher to meet the challenges of Internet usage for professional development comprised the common theme of all questions to be posed in this study. Social capital has been designated by the International Bank for Reconstruction and Development (World Bank), and other organizations, as essential for introducing Information and Communication Technology (ICT) in rural sectors of developing nations, and, although social capital was recognized as a factor affecting usage, social capital has not been measured for its influence upon usage of the Internet by teachers in these settings. The answers to the interview questions represented the first attempt, through any type of research, to

understand the relationships between social capital and Internet usage of teachers for professional development in any setting. This research could support development opportunities for indigenous and other teachers who lived in remote rural third world settings in Latin America to obtain educational credentials which compared to city-dwellers, representing a stepping stone to social justice for teachers historically cut off from equal opportunities (Fazio, 2007).

Although 34 Guatemalan teachers in a remote mountain region were offered complimentary computer usage to enroll in an online professional development program, in collaboration with the researcher, as teacher trainer, and the Fundación Rigoberta Menchú Tum, only 11 were participating or otherwise tapping online teacher resources when attendance was reassessed at mid-course. During a three-week period in the summer of 2008, a purposive sample of 20 teachers responded to five semi-structured interview questions. These questions probed to understand the influence of three key sources of social capital in social networks of bonding, bridging and linking forms. Responses were tape recorded and transcribed into Spanish by the researcher, and converted into findings by a team of the interviewed teachers and community leaders. Those findings revealed the perceptions of the community about the influence of social capital upon teacher perception and usage of Internet technology. Findings were derived in the PGI through an analysis of representative teacher statements developed by the native research assistant based on grouping of interview responses into categories and subcategories. The research assistant reviewed the responses for assertions consistent with Rogers's theory of perceived attributes of innovations and theories tied to the

diffusion of the Internet. Findings led to a community consensus about the types of social supports needed to maximize engagement of an online teacher education system in development with the researcher, as a volunteer collaborator, and the Fundación Rigoberta Menchú Tum. This system will positively effect the growth of trade, tourism and academic opportunity throughout Western Guatemala.

Design

Social capital literature includes descriptions of ideal, tested approaches to quantitative and qualitative analysis of social capital input. Some of the qualitative approaches were found to be particularly effective in stimulating community-driven improvements in systems and practices (Dudwick et al., 2006). The nature of these approaches, notably the participatory rural appraisal (Chambers, 1994, 1998), a qualitative method, merited review because “power,” specifically the perceived power and threat of an outside researcher, was asserted to represent a force which “hinders learning” (Dudwick et al., 2006, p. 9). Bessette said:

To facilitate participation, research teams and development practitioners must consider the people they want to communicate with as partners in a development effort, and not merely as beneficiaries. The corollary on the communication side is that efforts must be made to bring people into the discussion on the development problem or the goal to be addressed and the actions to be undertaken. (2004, p. 19)

Implementation of the participatory rural appraisal implied a will and interest of the researcher to seek the perceptions of rural populations in a way which involved them as principal actors in setting priorities and making decisions for change. These changes usually required the support and cooperation of government authorities or other leadership. As governments in developing nations were designated as relatively

suspicious of quantitative data, some researchers recommended qualitative information, generated by local communities and in their own words, as particularly convincing evidence of the need to support change (Dudwick et al., 2006).

Chambers defined the PRA as “a family of approaches and methods to enable rural people to share, enhance, and analyse their knowledge of life and conditions, to plan, and to act” (Chambers, 1992, p. 1). Particularly valuable about Chambers’s approaches to measuring social capital was his emphasis upon local, group problem-solving of community-identified issues, utilizing methods which recorded individual perceptions by utilizing culturally-sensitive native interviewers, while enhancing local cultural confidence for building a social consensus for resolution through the researcher’s facilitation of a community forum, of which the PGI is an example, in which community members and leaders could come together to form plans of action. Of this, Robinson (2002) commented:

[W]hat distinguishes PRA more than any of its techniques is its emphasis on participation. PRA practitioners generally believe that only when participants are in full control-of needs assessment, goal-setting, planning, policy-making, implementation, and evaluation -can a process be considered fully participatory. PRA, which emerged first in the global South... has the most to offer facilitators... (who) ask themselves reflective questions such as, Are my actions and methods as a facilitator contributing to the ability of the participants to take control? (p. 8)

This approach was especially suitable for measuring perceptions which were reviewed by the native research assistant for concerns related to Rogers’s traits of technology adoption and diffusion of innovations, but also integrated into questions seeking a description of the role of social capital as an interactive influence within local, societal and extra-societal networks.

Chambers's approach to the PRA has been acknowledged as an ideal qualitative approach for measuring attitudes and perceptions of individuals and groups in rural developing nation sectors, including for the measurement of social capital influences in these settings (Dudwick et al., 2006). The PRA was designed to break away from the invasive nature of research gathered by outsiders and the Western expert syndrome. Some suggested roles for the researcher as facilitator were to: (a) promote dialogue and the exchange of ideas among different groups; (b) encourage thinking about local development problems and possible solutions; (c) support the identification and realization of a concrete set of actions for experimenting or implementing the solutions identified (Bessette, 2004, p. 22). The focus of the PRA has been to provide a means for exploring and comparing the knowledge of participants in a way which built community awareness and led to effective action. The PRA also served as a means for rural communities to come to a common accord about the linkages between educational and community economic development (Robinson, 2002). World Bank researchers indicate that the quality of moderation of community forums of this nature is a key factor in the creation of plans which represent a unified community approach to solving a group-identified problem (Dudwick et al., 2006).

The present study was developed to resolve a challenge which perfectly mirrored those criteria, in its objective to enhance Internet usage of rural Guatemalan teachers by first interviewing individual teachers and then bringing them together with community educators to form an improvement plan based on their findings- a plan which would lead to economic and academic progress by enhancing online engagement of teachers. This

plan would crystallize community understanding of teacher professional development goals, concerns over Internet usage to reach these goals, and how a variety of social networks (bonding, bridging and linking social capital) interrelated or not to dissolve barriers and support goal attainment.

Underlying the purposes of the participatory rural appraisal, an approach which placed the researcher in the role of facilitator of native interviewers (Chambers, 1994; 1998), was the will to understand the worldview of rural peoples, usually designated as indigenous peoples, as applied to solving problems which they have identified for the benefit of the community. In the case of the setting for this study, San Lucas Toliman, the rural peoples in question were all teachers of English, but some were fully indigenous while others were considered Ladinos (of mixed European and Mayan ancestries). Many, but not all, wore tradition indigenous clothing and spoke an indigenous primary language. While the inhabitants of San Lucas Toliman were not all indigenous, they nevertheless participated in a shared experience of isolation from resources, expectations and opportunities more widely available to Guatemalan city dwellers. Their unique perceptions-how they knew what they knew-were key to understanding how to help them to develop the social supports they would need to succeed with online teacher professional development in a culture which has developed in isolation from the Western world (Fazio, 2007).

Such perceptions were based upon an epistemology, or way of knowing and experiencing, which was subjectivist in nature (Laungani, 2005). Subjectivist epistemology, consistent with Chambers's PRA, respected non-Western thinking, and

placed the views and the decision-making styles of non-Western peoples on an equal plane with the Western world. Collapsing all non-Western styles of thought into a single category, the values of east and west could be considered thusly:

Western cultures	Eastern cultures
1. Individualism	1. Communalism
2. Cognition	2. Emotionality
3. Free Will	3. Determinism
4. Materialism	4. Spiritualism

(Laungani, 2005, p. 251)

It is recognized that these denotations were polarized, and that any Western or non-Western (Eastern) culture could be characterized as possessing varying degrees of these values, “not in dichotomous terms, rather as a dimension, ranging from one end to the other” (p. 251). This observation was consistent with the aforementioned description of racial diversity in San Lucas Toliman, and had a direct bearing upon the argument for employing a technique which was recognized for its value in participatory self-appraisal by individuals and groups in rural developing nation communities seeking improvement or change, and needing to act collectively as an empowered people in a non-Western setting.

Curiously, for this very reason, participatory approaches have been denounced by some as inexact (Hirschmann, 2003), however the scientific community is divided over its validity. While some asserted that the PRA lacked academic rigor, others, such as Chambers pointed out that the involvement of local communities was essential to creating change which represents the will of communities, and would affect long-term commitment to adoption of change (Kapoor, 2002). This was because without involvement, or in the common vernacular, “buy-in” of rural or indigenous peoples to

identify and solve their own problems, mere provision of ICT resources, such as the Internet for teacher professional development, would be futile. Van Bavel et al. (2007) brought out very clearly the catalytic value of introducing ICT to rural communities given the interaction between a source of social capital with empowered individuals—in Rogers's words, "opinion leaders" (2003, p. 388)—who shared their values, skills and expectations for success of such an endeavor, with the community, in a unique way which promoted and accelerated the diffusion process (Van Bavel et al., 2007). Rogers (2003) however, conditioned his definitions of an opinion leader and change agents as not of force synonymous (p. 388).

Participation in the PRA by rural Guatemalan teachers in conversations with a native interviewer, facilitated by the researcher, were structured to respect, support and deepen their own perceptions about challenges and supports for Internet usage, and were followed by a group meeting in which they, in the company of other community educators, interpreted patterns the representative statements drawn from the interviews. This process was an essential, powerful and insuperable approach for generating local commitment to the steps which were designated by consensus, as necessary to generate high involvement (Bessette, 2004). A project for online professional development of rural Guatemalan teachers could be funded through industry or the non-profit sector given the proof of an eager client base of potential adopters. Herie and Martin (2002) referred to this process as "social marketing," recognizing that receivers must become actively engaged in the process by which a decision was made toward the adoption of technology. These authors also clearly pointed to the role of culture and power as a

barrier or a support to the utilization of research findings, observations which, although achieved independently, are fully consistent with the rationale behind Chambers's work in participatory approaches for community driven development.

Over thirty-one activities have been identified in research literature as consistent with the objectives of the PRA (Grenier, 1998). Many of these options were designed to address agricultural or environmental issues which are common to most studies which utilize the PRA, but some are of particular value to this study, in that they sought to understand a problem from the point of view of the respondent, and could be grouped per type of approach. The following is a concise summary and interpretation of those methods:

1. Establish researcher's role as facilitator of native-speaker interviewers: (a) employ not only knowledge of language, but of culture and eased communication; (b) reduce potential for researcher to distort change of questioning; (c) support integrity and focus of the interview process.
2. Conduct open-ended, semi-structured interviews: (a) include exploration of future possibilities; (b) permit chaining of questions to preceding interviews; (c) allow exploration of questions in ways amenable to respondents.
3. Empower community for presentation and analysis of findings: (a) prepare for evaluation of data while in the field, assisted by local leaders and residents; (b) allow for correction or reinterpretation of data in a group setting; (c) implement within local groups who were gathered for analysis of findings.

4. Assure integration of local methods for analysis: (a) ask members of group interviews to monitor the PRA process; (b) utilize participatory processes of sorting, prioritizing and graphic visualization to depict problems and solutions; (c) involve locals for presentation and description of problems and suggested methods to resolve them.

The researcher proposed to integrate these activities in a framework for studying a community of practice, comprised of 20 rural Guatemalan teachers who served students in public and private schools within the municipality of San Lucas Toliman, Departamento de Solola, Guatemala and who had participated in a free professional development seminar with the researcher, as teacher trainer. This framework of analysis, in the PGI, fulfilled recommendations for implementation of the PRA to achieve a consensus on priorities of goals, challenges and social solutions.

Five interview questions were posed, each question segmented into a series of shorter, semi-structured questions. The chain of questioning to accompany each of those questions was specifically reliant upon the answers which each respondent provided, and lasted up to 50 minutes per person. World Bank researchers recommended the use of the semi-structured interview as an effective strategy (Dudwick et al., 2006). Grenier (1998) stated “a semi-structured interviewing and listening technique used some predetermined questions and topics but allows new topics to be pursued as the interview develops. The interviews are informal and conversational but carefully controlled” (p. 59). The respondent’s answers were the guide to the tenor and direction of each succeeding question, seeking to deepen understanding of the core question.

The semi-structured interview questions tested for attitudes, perceptions and concerns about Internet usage for professional development and social supports which were depended upon, or sought, to enhance Internet usage. Of these categories, questions (a), (c) and (e) related to Internet usage issues, including Rogers's perceived attributes, while questions (b) and (d) focused on the availability and utilization of assistance through social networks, under the umbrella of social capital. World Bank researchers clarified the value of understanding the relationship of these concepts to the ability to reach individual and group goals:

Understanding the groups and networks that enable people to access resources and collaborate to achieve shared goals is an important part of the concept of social capital. Informal networks are manifested in spontaneous, informal, and unregulated exchanges of information and resources within communities, as well as efforts at cooperation, coordination, and mutual assistance that help maximize the utilization of available resources. Informal networks can be connected through horizontal and vertical relationships and are shaped by a variety of environmental factors, including the market, kinship, and friendship.

Another kind of network consists of associations, in which members are linked horizontally. Such networks often have clearly delineated structures, roles, and rules that govern how group members cooperate to achieve common goals. These networks also have the potential to nurture self-help, mutual help, solidarity, and cooperative efforts in a community. "Linking" (vertical) social capital, on the other hand, includes relations and interactions between a community and its leaders and extends to wider relations between the village, the government, and the marketplace. (Dudwick et al., 2006, p. 18)

Dudwick et al. (2006) proposed a series of questions which were appropriate to ask about social capital networks and norms. These questions were considered when forming the interview questions. The questions were appropriate to the implementation of the PRA to measure social capital, and included, "Who plays a leadership role or mobilizing role in

the groups or networks?” and “What networks or groups do people typically rely on to resolve issues...?” (p. 19).

It was correctly expected that some of Rogers’s perceived attributes of innovation (2003) would be referenced as reasons for adopting or rejecting technology. Other attributions would be made to the presence or absence of physical resources in the community. World Bank researchers made references to the categories of resources which could serve as a source of inquiry. Some of these were referenced in interview responses, and included, “How is access to these resources distributed among households and groups?”, and “Do poor or marginalized groups experience greater obstacles in accessing community resources and/or services?” (Dudwick et al., 2006, p. 18). It was correct to assert that the perceived availability of Internet resources could affect the interest or willingness to adopt them as tools for professional development.

Teacher respondents to the interview were to be compensated with bilingual teacher materials valued at thirty U.S. dollars (the equivalent of three day’s teacher pay) or more. At the conclusion of each interview day, digitally-recorded answers were to be transcribed and coded by the research assistant for correlations to norms and social networks, after which significant responses were grouped in color-coded sets. These sets of similar answers were used for developing representative statements. The representative statements were depicted in chart form and also reproduced on sentence strips for review by the community educators in the permanent-group interview. After grouping and prioritizing the representative statements, the community educators derived their findings and presented them orally and in poster format.

The Permanent-Group Interview

Key to organizing the responses of individual participants in the PRA is the convening of a permanent-group interview (Grenier, 1998), comprised of respondents and community leaders, led by a community leader and facilitated by the researcher. The permanent-group interview (PGI) was to be convened with the express purposes of making meaning of representative statements of the interviewed teachers which were collected and color-coded previous to the PGI. The PGI meeting represented a forum for the community's educators to develop findings based on the interview data, to reflect on those findings and to create a plan of action for resolving the issue of teacher neglect of free online services and coursework, representing the central problem of the study and an issue of practical importance identified from within the community (Robinson, 2002).

Community participants in this type of meeting were showed how to use matrices (tables) to visually depict priorities of needs, social relationships and potential solutions. The PGI setting was to be employed to foment a group dialogue and to reach a consensus about how the need for online teacher professional development was experienced and prioritized in the lives of local teachers, and was to represent the collective voice of those teachers to foment a consensus about actions to ameliorate the study problem. In the case of this study, the PGI represented a focus group setting for triangulation and clarification of individual responses in the context of perceived needs by the community. World Bank researchers clarified the intention of such a meeting and its value over quantitative input:

It is essential, therefore, that participants include representatives from each of the major subgroups in a community. The idea is that if a group reaches consensus on a particular issue after some discussion, this consensus will then be representative of views in a given community....The moderator's role is thus the key to ensuring

that high-quality data is gathered from a group discussion—an inadequate or inexperienced moderator can affect the quality of the data in a manner that is much more acute than an equivalently inadequate interviewer working with a structured quantitative questionnaire. (Dudwick et al., 2006, p. 11)

The permanent-group interview was to represent a means for triangulation of data culled from individual interviews, and although not a focus group, bore many of its characteristics. New to research methodologies as of the late 1980's (Chambers, 1992), the PGI was designated to be community-led with research findings driven and ratified by the criteria set from by the participants for the purposes of decision-making and action-taking, which takes the PGI ahead of focus groups for practical applicability of its findings, but like focus groups represents a means for triangulation of data.

Hatch's statements were consistent as he stated that "other sources should be consulted if focus groups are to be used as free-standing qualitative data" (2002, p. 131). Hatch indicated, "Focus group interviews rely on the interactions that take place among participants in the group to generate data... The goal of focus groups is to create conversation that allows participants to explore a topic in depth (and) interaction... gives focus groups their unique character" (p. 132). According to Hatch, the goal of focus groups was to create conversations that allow participants to explore a particular topic in depth.

The proposed PGI was to be led by a leader of the Fundación Rigoberta Menchú Tum, and realized by teachers who have participated in the interviews in the company of other community educators. Other interested community members were also to be welcomed to attend as observers. The PGI focused upon identifying patterns in representative teacher statements, prioritizing concerns, and understanding a profile of

ideal conditions for success in an online teacher professional development program. The PGI served as a forum for discussions and solutions for improving participation in online professional development. For the researcher's purpose, in the context of the PRA, it was meant to encourage the type of interaction which would allow participants to discuss the content of the teacher interviews, in order to achieve consensus about how to improve participation in online professional development opportunities.

The participatory rural appraisal, a qualitative method which is relatively new to qualitative research, was downplayed by some researchers as less than scientific (Hirschmann, 2003; Kapoor, 2002), because the study's participants themselves interpreted the data to derive findings. One of the techniques identified in literature about the PRA, indicated gathering the community participants to generate findings, after the completion of individual interviews, by meeting together in a permanent-group interview (Bessette, 2004; Grenier, 1998). In the PGA, the meeting leader, with support available from the researcher if requested, led the informants through a process of community prioritization of the representative statements made by interviewed teachers. The representative statements were developed by the native research assistant in a process of precoding of collections of similar responses, consistent with Hatch's typological analysis (2002, pp. 151-157), with Stewart and Shamdasani (1990). Hatch indicated that in typological analysis, the researcher would pursue analysis interview data with an understanding of the themes, patterns and relationships which are sought. Hatch's key steps in typological analysis included (a) identifying typologies to be analyzed; (b) looking for patterns, relationships, themes within typologies; and (c) reading data, coding

entries according to patterns (2002, p. 153). These processes mirrored the activities planned for the research assistant to convert sets of interview responses into representative statements for use in the PGI.

The broad research question in lay terms was: Which people you know, experts or people in other places (social capital influences) support or detract from teacher usage of the Internet for professional development and how can this understanding inform a plan to enhance engagement? In the PRA permanent-group interview, the informants, together with a selected group of community educational leaders, gathered together to participate in a process of coding the representative statements into themes and priorities for resolution. The meeting leader was designated to lead a reflective group discussion about the supports and barriers to teacher Internet usage, in order to profile and enhance social capital supports to enhance their engagement in online professional development coursework.

Essential to reaching a level of consensus about such a plan was the convening of the PGI as the culmination of the study, and as the forum for derivation of findings. The PGI also allowed interview participants and community educational leaders to hear diverse viewpoints. The PGI was essential because it (a) allowed interview participants to understand commonalities and differences in responses, (b) allowed interview participants to recognize patterns in responses, (c) allowed community educational leaders to recognize the needs of community's teachers, and (d) brought interview participants and community leaders together to develop the study's findings leading to an action plan for enhancing participation in online professional development coursework.

Stewart and Shamdasani (1990) concurred with the notion that the holding of a group meeting does not provide the means, in and of itself, for analysis of the subjects treated in the meeting, nor does “meaning... leap out complete with interpretation and insight” (p. 105). They indicated that, “the content of the discussion must be examined and the meaning and its particular implications for the research question at hand must be discovered” (p. 105). Accordingly, the primary intent of the PGI was, rather, to encourage the type of interaction which would allow participants to explore a topic in depth, to achieve consensus about how to improve participation in online professional development opportunities. Utilizing principles of the PRA, the final coding of the interview data in the form of representative statements was performed by the PGI participants, was carried out in order to gain consensus and form a manageable list of priorities for developing the community’s ideal of a locally-managed, online, professional development program for teachers.

Coding Procedures

Previous to the PGI, the native speaker research assistant precoded selected interview responses by converting similar responses into representative statements. These statements were generated to facilitate usage by the participants for the prioritization activity within the PGI, in line with Stewart and Shamdasani’s description of the cut-and-paste technique, but applied in a novel manner to match the purposes of the PRA permanent-group interview. To prepare the participants for coding and discussion of the interview data in that meeting, this technique was applied to the transcripts of participant interviews previous to the PGI, followed by conversion of collected, like responses into

representative statements. During the PGI, in line with the requirements of the PRA, the participants, rather than the researcher, synthesized the interview data to derive the study's findings.

According to the indications of Stewart and Shamdasani (1990) the technique for coding of data from transcripts, was followed in this manner:

The cut-and-paste technique is a quick and cost-effective method for analyzing a transcript...The first step in applying the technique is to go through the transcript and identify those sections of it that are relevant to the research question(s)... Color-coded brackets or symbols may be used to mark different topics within the text... (and) material may be phrases, sentences, or long exchanges... (and) the transcribed interview may be cut apart. (p. 105)

Upon transcription (in Spanish) of each interview, the native speaker research assistant color highlighted words or phrases related to the first three or the four research questions, and collected those responses into sets of similar responses. The researcher then marked a tentative or preliminary code upon these words or phrases to match the following categories:

- I. Perceived Technology Challenge, derived from Rogers's theory perceived attributes of innovations (Rogers, 2003):
 - 1 = Relative Advantage: Innovation not perceived to offer an advantage over current resource seeking practices
 - 2 = Compatibility: Innovation not compatible with current habits or practices
 - 3 = Complexity: Complexity of innovation interferes with employing it
 - 4 = Trialability: Not enough opportunity to try out the innovation

5 = Observability: Have not seen positive effects of innovation upon others

II. Social Network Support to Meet Technology Challenges, derived from Woolcock's description of the three origins of social capital in networks (Woolcock, 1998):

B = Bonding (influences of peers)

BR = Bridging (influences of local experts)

L = Linking (influences of individuals from outside social group)

After all transcripts were considered, the research assistant grouped like responses into brief, color-coded representative statements, written in the first person, grouped according to categories tied to the first three research questions, described here in the same order: (a) attitudes about the Internet (pink); (b) professional goals tied to the Internet (yellow); and (c) supports for Internet use (green).

The agenda for the session was set by the meeting leader, a key staff member of the Fundación Rigoberta Menchú Tum. The PGI opened with introductions, and was followed by brief presentations by the meeting leader and the researcher about the study's purpose and components. The ensuing discussion included a presentation by the meeting leader about the perceived values of an online professional development program for teachers. Previous to the gathering, the researcher had posted, in large print, a list of the representative statements and their frequency per each of the above color categories, in a chart designed bearing the following design. This chart is fully reproduced and translated in Appendix C.

Attitudes About the Internet	Professional Goals Tied to the Internet	Supports for Internet Use
[Color-coded bar]	[Color-coded bar]	[Color-coded bar]

Figure 1: Chart Design, Color-Coded Representative Statements (see Appendix C for full reproduction)

In the PGI, interviewed teachers and other community educators were grouped into teams, and each team received a packet of the representative statements on sentence strips. The meeting leader asked the teams to prioritize, by importance, the types of social supports and social barriers which were identified in the statements, were provided poster paper and markers and asked to share in writing the justification for the priorities they had assigned to the representative statements deemed to be of most importance to them.

Research question 4, as the culmination of the preceding three, was to be explored by means of a whole group reflective discussion under the direction of the meeting leader, to identify which types of social networks (bonding, bridging or linking) would be most beneficial engaging participation in online coursework for the teacher community of San Lucas Toliman, and to build upon those answers to create a plan of action. The meeting was to be finalized with a closing presentation by community leaders in which they would summarize the effects of the study's findings upon the planning process for creating an online teacher professional development program leading to certification or a diploma. Upon closure of the meeting, a dinner, paid for by the researcher was served to all in attendance, as a way of expressing appreciation for participation in the PGI.

Role of the Researcher

The role of the researcher in Chambers's original technique, known as the rapid rural appraisal, or RRA, was the opposite mirror image of the PRA. While a quick and efficient way of entering, collecting data and exiting a perhaps inhospitable rural environment, the RRA's downfall was its negligence of the non-Western perceptions and paradigms of those who were to be evaluated, including the invasive role of the researcher, the types of questions administered and how they were to be interpreted (Gonsalves, 2005). The PRA permitted researchers to set up a study in an open-ended timetable, which should be extended if the researcher had no previous experience with, or appreciation for, the local culture. Among a variety of participatory method options, the PRA permitted open-ended, semi-structured questioning techniques which explored the respondents perceptions free of the researcher's expectations for appropriateness. Also, while the RRA allowed for data evaluation using standards of appraisal which diverged from the culture of the community to be studied (Chambers, 1992), the PRA expected the researcher to rely on the methods of native interviewers and local community members and their leaders to interpret response patterns and to function as a facilitator their consensus building (Chambers, 1994).

As expected in the guidelines for implementation of the participatory rural appraisal (Bessette, 2004; Grenier, 1998), the researcher facilitated the activities of a research assistant to function as a native interviewer in the implementation of the individual interviews. The research assistant chosen for this task was known to the researcher for 18 years and had previously supported the researcher in implementation of

educational projects based in Mexico City. Most recently this individual provided support as a facilitator of teacher training workshops conducted by the researcher in San Lucas Toliman, Guatemala, during 2007, with the teacher group from which is drawn the study's sample. The research assistant was female, a native Spanish-speaker of Southern Mexico, of Mayan heritage and familiar to the area of San Lucas Toliman where she is known to a number of the teachers and administrators through contacts made during teacher training seminars realized in 2007. Those factors made the individual an ideal candidate as a native interviewer under the requirements of the PRA. After final approvals for conducting the study, and previous to the implementation of the qualitative interviews in Guatemala, the researcher met with the interviewer in Mexico City and oriented her to the specific interview processes, conducted practice interviews, and reviewed the parameters, requirements and timetable of the study within the context of the PRA. The research assistant was to be compensated at a flat rate of fifty U.S. dollars (\$50.00) daily while on site in San Lucas Toliman, in company of the researcher.

Although the researcher was at native-level fluency in Spanish (see Appendix D) and knowledgeable of the local culture, in the individual twenty interviews the researcher functioned as assistant to the interviewer, by assuring the completion of confidentiality agreements, recording field notes, and providing any other support if and as requested. This researcher took a number of steps to avoid researcher bias, the principal of these fulfilled by delegation of the interviewer role. While the researcher designed the original interview questions, the research assistant was to segment them into simpler semi-structured interview questions and assure that vocabulary would be locally

comprehended. The research assistant also assumed the role of establishing the interview appointments, took precedence in greeting and preparing the informants to interview, and operated the recording equipment. The interview ceded control of the interviews to the native speaker research assistant, although the interviewer is fully fluent in Spanish, has been speaking the language since 1976 and is rated at 8+, the highest possible score on the Texas Oral Proficiency Test of Spanish. In this way, the research followed PRA controls to guarantee respondent confidence in the interview process, thus allowing the best conditions for free and open expression of perceptions.

Research Questions

The research questions were:

Research Question 1. What past, present and future concerns about the Internet for professional development have these teachers experienced or expected to experience?

Research Question 2. How well did the Internet meet needs for professional development in relation to the grade levels to which each teacher was assigned?

Research Question 3. What forms of social capital levied the most influence for improving the Internet usage of these teachers for professional development?

Research Question 4. How could understanding of social capital influences upon Internet usage be applied to improve participation in online professional development for teachers of San Lucas Toliman, and to what other settings might this understanding be meaningfully applied?

Interview Questions

The interview questions probed for information which provided evidence about the aforementioned research questions, and because they were segmented into semi-structured research questions imparted by the native research assistant as interviewer, respondents were allowed the freedom to diverge from or deepen their answers and to speak extemporaneously with no time limits. Consequently, each question bore the potential for producing references applicable to any of the research questions. The five interview questions interrelated to demonstrate applications to professional development goals, social networks and norms in support of engaging online coursework. The questions were designed to allow a great deal of variation of response, and to explore the meaning of key concepts presented by each respondent. This framework allowed for the question to proceed in uniquely tailored ways.

Using Janesick's categories of interview questions (2004, pp. 72-73), all questions were principally of the type, "structural-paradigmatic," but because the PRA methods suggested semi-structured interview questions, which allowed the interviewer to probe and extend each question, this allowed also for the posing of basic descriptive, follow-up, experience/example, simple clarification and comparison/contrast questions.

The English language translation of each interview question was as follows. See Appendix E for the semi-structured interview questions tied to each of the original questions.

The interview questions were:

Interview Question 1 (tied to Research Question 1: What past, present and future concerns about the Internet for professional development have these teachers experienced or expected to experience?) Tell me about the influences which caused you to become a school teacher, and the concerns which you have experienced regarding use of the Internet for professional development.

Interview Question 2 (tied to Research Question 3: What forms of social capital levied the most influence for improving the Internet usage of these teachers for professional development?). Tell me about people who you turn to for help, skills or guidance to persist and achieve your goals for teaching and for using the Internet.

Interview Question 3 (tied to Research Question 2: How well did the Internet meet needs for professional development in relation to the grade levels to which each teacher was assigned?). What grade levels and subjects do you teach and how necessary or useful do you perceive using the Internet at the Pavarotti school for enhancing your school teaching? How often do you use the Internet for professional development and what are the fundamental reasons for this?

Interview Question 4 (Tied to Research Question 3: What forms of social capital levied the most influence for improving the Internet usage of these teachers for professional development?). Tell me who you turn to for help, skills, or guidance to persist and achieve goals using the Internet for professional development, or if you are more of an independent learner.

Interview Question 5 (tied to Research Question 4: How could understanding of social capital influences upon Internet usage be applied to improve participation in online

professional development for teachers of San Lucas Toliman, and to what other settings might this understanding be meaningfully applied?). How much of what you achieve in the classroom is due to using the Internet, and how prepared do you feel to apply what you achieve in the classroom? How useful do you think the Internet will be in the future to you and to teachers like you in other locations?

After each the response to each question, the native interviewer sought details to clarify key concepts as presented by the informant. Samples of both the English and Spanish-language responses were published in Appendix A of this study.

Context of the Study

This study was to be conducted in San Lucas Toliman, a remote, rural town, one of twelve situated around the shores of Lake Atitlan, in the mountains of Western Guatemala. Most of the teachers to be interviewed for the study lived within the bounds of this municipality. Some teachers, however, lived in settlements (cantones) or in remote villages (aldeas) nestled in the hills and forests surrounding the town. Because of concerns to protect the confidentiality of interview participants, the teachers would not be visited in their homes without invitation, and due to a combination of safety and public transportation limitations, home visits at night would be avoided. The majority of interviews would take place during teacher break periods or other periods of time agreed upon with the teacher during the school day. Some teachers opted to visit with the researcher for interviews in the evening at the kitchen-café operated by the Fundación Rigoberta Menchú Tum, a site well-known and respected throughout the community, and a safe and confidential place for interviewing.

Sample

The 34 English teachers invited to participate free of charge in twenty-six weeks of online coursework between September 2007 and May 2008 demonstrated four types of characteristics, as evidenced by attendance records kept online and in signature records: (a) 5 participated consistently, and completed all lessons; (b) 6 participated consistently until dropping out halfway through the course; (c) 8 participated inconsistently, dropping out after one or two lessons; and (d) 15 did not participate. Five of each type of teacher were interviewed. Participation levels were depicted in Table 1.

A purposive sampling method was used, as this approach was recommended by a World Bank report as an effective strategy for studying remote, rural communities limited by impediments in communication and transportation, and was based on balancing ideal participation with availability of participants (Dudwick et al., 2006, p. 14). A group of 20 of the 34 teachers was contacted by the research assistant/ interviewer in person or over the telephone.

Following the participation numbers shown in Table 1, each participant's name was placed by the researcher in one of four receptacles, each representing a participation category. From each receptacle, five names were randomly drawn, and to these, invitations will be extended by the research assistant to participate in the study, to total 20 teachers. As in a few cases, selected teachers were unreachable, replacement names were drawn and teachers contacted until five teachers were scheduled for interviews from each participation category. In compensation for their participation in the fifty-minute interview, each participant was to be provided bilingual teaching materials worth thirty

dollars (\$30.00) or more. This amount represented the equivalent of three days of teacher pay, each day typically comprising six hours of teaching.

The teachers who participated in the study were well known to the researcher, who had made two previous trips to San Lucas Toliman totaling four weeks of contact time, working closely with them in volunteer teacher training seminars hosted at the Centro Educativo Luciano Pavarotti, a secondary school operated by the Fundación Rigoberta Menchú Tum. In previous years, the researcher had lived directly in Western Guatemala as a missionary to the neighboring towns of Momostenango, Quetzaltenango, Totonicapán and Olintepeque, speaking the Quiché language. Following two years of service in that capacity, the researcher had worked as a teacher trainer and course product manager for McGraw Hill Interamericana de México, traveling regularly to Guatemala.

This field experience, and knowledge of a key indigenous language, coupled with familiarity and appreciation for rural Guatemalan culture, enabled the researcher to form ties of confidence with the teachers participating in the San Lucas Toliman training sessions in 2007. That working relationship facilitated the agreement for participation in the present study of their Internet usage. However, as the interviewer, a native speaker, posed the questions, the researcher was recognized as an interested but remote third party, and consequently his presence did not directly affect or shape responses. This delineation of the three-way relationship between the researcher as facilitator, the native interviewer and native respondent, was specified as essential to implementation of the PRA (Bessette, 2004; Grenier, 1998). The relationship of trust between the research assistant and interview participants was heightened by their shared cultural and linguistic

understanding, promoting freedom of expression and revelation of details which could only be interpreted and enhanced through conversations felt to be carried out in confidence.

Data Collection Methods

Previous to each interview, potential participants were to be asked to review and discuss a consent form, written in English and in Spanish to cover their participation in the interview and in the closing PGI. If in agreement, participants would sign the form, which guaranteed complete confidentiality of their names by assigning each respondent an informant number for purposes of transcription, reporting and description of final results. Interviews were to be audio recorded. During each interview, conducted by a native speaker of Spanish as interviewer, the researcher would construct field notes. At the end of each interview day, the researcher would work with the native interviewer, who would transcribe the audio recordings, select, group and color-code similar responses, and convert sets of responses into representative teacher statements.

Previous to the PGI, which was realized after completion of all interviews, the participating educators not numbered among the original informants signed a consent form. During the course of the closing PGI meeting, the researcher planned to create a digital recording the meeting, accompanied by field notes. The researcher planned to retain the audio recording as documentation, and to maintain detailed meeting notes to counterbalance and clarify the content of the recording. The audio recording would also correlate with the meeting agenda to be planned through agreement between the researcher and the local, native meeting leader.

Threats to Quality

Robinson (2002) clearly articulated potential barriers to effective implementation of the standards for PRA interviews and meeting. He presented these as a series of questions for researcher self-reflection, some of which were repeated herein for review. Through the posing of these questions to a potential PRA research facilitator, Robinson buttresses the purposes of the PRA. The researcher met these standards as will be evidenced in notes regarding the implementation of the study as described in section 4:

Where does the meeting or event that I will be facilitating fit within larger decision making processes? Are my actions and methods as a facilitator contributing to the ability of the participants to take control over decision making and their ability to self-mobilize? Is my role as facilitator empowering people or am I promoting a new type of expert knowledge and a new type of dependence? (Robinson, 2002, p. 8)

The present study aligned with these injunctions in that, through every step of the investigative process, local ways of knowing and of expressing knowledge were respected. Robinson also indicated that some NGOs have conducted studies using the PRA but with the objective of institutionalizing programs not wanted by the local community. This study steered clear of this potential error in judgment by relating its purposes to those of the Fundación Rigoberta Menchú for enhancement of engagement in online teacher training as described by the FRMT Education Director, who functioned as the meeting leader in the PRA culminating community meeting (Cifuentes, 2007). This study was also set up to measure concerns and solutions as articulated through the will of the respondents, and recognized that a general disinterest in online professional development might become apparent, and thereby was intentionally reported and

analyzed in a manner consistent with the patterns of responses of all who are interviewed, including dissident responses.

Feasibility and Threats to Validity

Hirschmann (2003) questioned the feasibility of conducting a PRA study in a rural, developing nation setting, within a two-to three-week time limit. Curiously, three weeks is the time which the researcher had allotted for the proposed study. Hirschmann's assumptions about the futility of dedicating a short span of time for implementation of the PRA was related to conditions in which a researcher would attempt a study without previous experience and confidence in communicating according to the language and culture of the study's site (Hirschmann, 2003). Bessette (2004) and Grenier (1998) both asserted that the PRA could indeed be implemented during a brief time frame such as is described, under the conditions that the researcher had developed relationships of trust in the area and was confident in communicating according to the rules of the culture.

This researcher met the criteria outlined by Bessette and Grenier. He has lived full time for a total of twenty-seven months in the rural region of Guatemala designated for this study, worked for another four years on assignment in that country, previously spoke one of the indigenous languages, Quiché, was certified as possessing full fluency in Spanish, and has spent four weeks on site training teachers in the town described for the study. Hirschmann (2003) also emphasized the valuelessness of attempts by NGOs to take data from a local site implementing the PRA to scale up, or generalize findings, for purposes of policy reform. The findings derived for this study, in alignment with

Hirschmann's precautions, were only meant to apply to improvement of a local program designated as of interest by the FRMT and the community's educators.

The relationship of the data to other settings—even other rural Guatemalan settings—was to be treated only as inferences, recognizing that the study's design could be duplicated in a similar area with potentially very different results. Also, to adjust for potential factors of invasiveness alluded to by Hirschmann (2003), the teachers who would participate in the study were teachers who were sufficiently comfortable in their contacts with the researcher because of their participation in one or more of three, two- and three-day workshops held onsite in San Lucas Toliman between January of 2007 and June of 2008. To assure that the standards of the PRA were met for cultural sensitivity, a native research assistant was to conduct the interviews, accompanied by the researcher as facilitator. The extra level of empathy, cultural confidence and linguistic skill of a native interviewer would support the process of respecting cultural and linguistic signals of respondents and encourage free expression of their opinions, a process which was essential to this study.

Ethical Considerations

Three considerations dominated the perspective of the researcher for assuring that ethical principles were to be followed in the realization of this study. The first consideration was tied to respecting ways of knowing and of making and implementing decisions as characterized in non-Western cultures (Laungani, 2005). It would be both unethical and unpractical to impose findings and expect implementation of recommendations made from outside the social system regarding usage of the Internet for

teacher professional development. To ameliorate this potential concern, the interviewees in this study were asked to prioritize their concerns and sources of support for addressing these concerns, and in a group setting, results were to be assessed and interpreted by local educational leaders and many of the same teacher informants.

The second consideration was related to sensitivity to the environment which surrounded the teachers who would respond to the interview questions. Some might feel concern about ostracism from others who may not sympathize with their goals for professional growth. Bessette (2004, p. 21) reminded those who employed the participatory rural appraisal to not make participants pay the price for their indiscretion. As a result, this researcher would not seek to interview teachers in their homes, unless expressly requested to do so. All interviews in school would be conducted with the express agreement of teachers and with deference to school principals. All participants would be compensated for their participation and guaranteed confidentiality.

Bessette (2004, p. 33) also contributed that while it was indeed possible that findings can be applied uniformly and generically to other rural indigenous settings, it was wrong to try to scale up, or promote the study's conclusions to any other setting. Findings should only be used to solve the specific problem in the setting of the study. Also, although the researcher facilitated the interviewing and precoding of data, the local community was solely responsible for derivation of findings, establishment of plans of action, and implementation of results, unless collaboration of the researcher was requested. Seeking to apply findings of the study to any other setting would constitute a misuse of the data under the chosen paradigm (Bessette, 2004, p. 34).

The study's twenty participants were to be drawn from the pool of thirty four participants in the on-site teacher training seminars conducted during 2007 and 2008 by the researcher. All participants were to be notified of the impending study and invited to participate via a notice sent to them personally in the mail. A copy of the informed consent statement for participants, (see Appendix F for English and Spanish versions of this form), the confidentiality agreement of the research assistant (Appendix G), and a letter of cooperation from the FRMT (Appendix H) were annexed to the request to be directed to the Walden University Institutional Review Board for permission to conduct this study. Permission was granted, as evidenced by approval number 05-30-08-0305186. This number was also referenced to support any future funding or publication submissions.

In late June of 2008, each teacher was to be visited at the school site, or at their home, according to their indications. Each teacher was to be invited to sign an informed consent statement guaranteeing confidentiality of the responses given. At that time, the potential respondents would confirm if they preferred to be interviewed at their school site, at their home, on the grounds of the FRMT's local school, Centro Educativo Luciano Pavarotti, or at an alternate location, and would indicate the days and times which were most amenable to them. Each respondent would be made aware that compensation equivalent to \$30.00 cash or equivalent materials would be provided upon completion of each interview, and that an additional benefit, in the form of an evening meal, would be provided for participation in the culminating PGI meeting.

SECTION 4:

RESULTS

Introduction

Because most of 34 English teachers in a remote Guatemalan setting were offered, but rejected, the use of free Internet services for access to online professional development coursework, the researcher formed an agreement with the Fundación Rigoberta Menchú Tum (FRMT) to conduct this study. Diffusion research, led by Rogers (2003), explained five potential perceptions of attributes of the innovation of online learning which may have interfered with the teachers' decisions about the adoption of online learning practices. Social capital, as explained principally by Woolcock (2006) and Lin (1999) defined how social networks of three kinds-bonding, bridging and linking-could be the medium for transmission of norms which supported or impeded adoption. Foth (2003) stated that provision of Internet technology without social supports was inadequate. Creed & Joynes (2005) and Trucano (2005) coincided in the assertion that third world online education was under researched. Kowch (Lorenzetti, 2004) added that social capital should be researched to describe and enhance processes of online education, and directly corroborated the researcher's evidence that social capital was found nowhere in prior literature to fulfill this function.

Accordingly, this study fulfilled injunctions to learn about the influences of social capital upon online education choices in a developing nation setting, and as such filled a commonly-reported gap in research. This dissertation represented a new brand of study of online education in the developing world, which shifted the focus from how to provide

equal access in Internet technology to how to employ social capital, as social networks and norms, to enhance interest and engagement in finding and utilizing Internet services for self-improvement through online education. Furthermore, the study employed innovations in culturally-sensitive research methodology, emphasizing locally-led research practices and decision making incorporated in the use of the participatory rural appraisal (PRA) for community capacity building. The culminating meeting of the PRA in this study was the permanent-group interview (PGI). Through the PGI, in place of the traditional role of the researcher, many of the 20 interviewed teachers and their associates derived findings from interview data. Their findings led to a plan of action composed by the meeting leader, the education director of the FRMT, that was directed toward improving the engagement of online teacher learners in San Lucas Toliman and nearby villages and settlements.

Teacher Interviews and the Identification of Findings

The following table depicted the steps and facets of the research process which were followed in accordance with PRA recommendations, in relation to the integration of the community, the researcher, and prior related research.

Table 2
Structure of Process for Generating, Gathering and Recording Data within the PRA Methodology

Input Source (role)	Community (implement research process)	Researcher (facilitate research process)	Prior Research (triangulate findings)
Phase 1: Interviews and Precoding of Responses	Research assistant conducted interviews, transcribed interviews (dictated from audio recordings to researcher), and daily precoded comments with colors for three response categories linked to the research questions.	Researcher recorded field notes during interviews, coordinated with research assistant, who summarized comments as representative statements describing supports or barriers to online learning, embedded the statements with number and letter codes tied to perceived attributes of innovations and social capital in networks, and created materials for use in the PGI.	Researcher tied the tentative findings to the research questions, and identified new learning gained through application of research methodology.
Phase 2: Synthesis of Findings	Community teachers and educational leaders in the PGI converted the precoded data to findings, in a process led by the FRMT educational director.	Researcher recorded field notes, reported correlations or disparities between meeting agenda and practices, and documented the steps which led to group findings.	Researcher tied findings to research questions 1, 2 and 3, and described elements of the findings which substantiated, contradicted or supplemented prior research.
Phase 3: Implementation of Findings	FRMT educational director synthesized findings of the first three research questions into findings which addressed research question 4 to resolve the research problem. FRMT educational director called teachers together for a follow-up meeting in August, 2008.	Researcher recorded field notes, and took note of action steps enjoined in the PGI for enhancing teacher participation in online learning.	Researcher tied the findings of research questions 1, 2 and 3 to findings of research question 4, and described implications for further research.

Description of the Interview Process

The Fundación Rigoberta Menchú Tum formed an agreement with the researcher to study the paradox of general teacher neglect of an offer to participate in free professional development online coursework. This free coursework was comprised of nine months of online lessons about English-language teaching engaged through free Internet usage at a community technology center in San Lucas Toliman, Guatemala. Coursework was offered by the researcher online after two three-day onsite workshops

which enrolled a total of 34 English teachers at public primary schools and public and private secondary and preparatory schools. Of 34 teachers invited to participate in a 26-week program of online coursework as follow up to the workshops, only 19 began the course, and of them only 11 participated consistently. Eventually, 6 of those teachers dropped out of the course, with 5 completing all sessions. FRMT staff initially identified the low turnout at the commencement of the course and the researcher shifted attention to the paradox of low or no participation by the 34 invited teachers, resulting in an agreement with the FRMT education coordinator to conduct a study of that problem. Evidence of the FRMT's support for the project is found in a letter of cooperation which is reproduced in Appendix H.

A culturally-sensitive, native Spanish-speaking research assistant was employed to perform the role of the interviewer, and agreements were made by telephone to orient this assistant to the organization and tools of the study. The research assistant, who had collaborated with the researcher twice before for conducting onsite teacher language acquisition workshops in San Lucas, had formed a positive working relationship with teachers. As a person of Mayan heritage from a neighboring country, Mexico, the research assistant qualified as an appropriate substitution for the researcher as required by the PRA for utilization of native researchers and the facilitative role of the researcher. Evidence for the participation of the research assistant was shown on the confidentiality agreement found in Appendix G.

The research assistant fashioned semi-structured interview questions by breaking the interview questions into shorter, limited-topic clauses (see Appendix E). One week

prior to the inception of research, the researcher met with the research assistant. The purpose of this meeting was to provide orientation to the use of the research materials, including the interview questions, tied to the research questions, which question the nature of social capital influences in relation to goals and challenges affecting Internet usage. Upon review, the research assistant converted the subclauses of each major question into a series of shorter interrogative phrases. This action represented a gesture toward cultural and linguistic sensitivity in simplifying requests for input to reduce difficulty in introspection or recall. Thereby, the research assistant rebuilt each original interview question into a series of semi-structured sub-questions which would allow for response on a limited topic and encourage free expression of each teacher (see Appendix E). The research assistant, recognizing probable hesitancy in disclosing personal challenges, planned for this shorter question approach to lead each teacher to a level of comfort in revealing perceptions and concerns.

Of a pool of the 34 teachers who had been invited to participate, 20 teachers were selected for interviewing, in a purposive sample based on availability, interest in participation and levels of activity in the online coursework. Confidential attendance records, maintained at the community technology center by an FRMT staff member, were scanned monthly and forwarded electronically to the researcher. These, in comparison to email records of lessons sent and received, substantiated the assignment of each teacher to one of the four participation categories. Five teachers from each category were selected in a purposive sample. The records consulted for the identification of the participants have been kept confidential.

The interviews were conducted from June 17 to 23, 2008 at sites within or near to the town of San Lucas Toliman, Guatemala. All teachers read and completed a consent form with guidance from the researcher. The research assistant made an audio recording of each interview. The researcher observed the interviews and recorded field notes. The research assistant laid the groundwork for each interview by communicating with the teachers to establish interview dates and sites. All interviews were conducted in the town of San Lucas Toliman or in nearby aldeas, or settlements, within twenty minutes driving distance of this mountain lake town of western Guatemala. The researcher and assistant used a van to drive on a combination of paved and uneven dirt roads to outlying areas, but were ferried to in-town appointments in a modified motorcycle taxi.

All interviews were conducted by the research assistant, who was seated in each case, facing the teacher at opposite sides of tables or conjoined school desks. Most of the twenty interviews were conducted by the assistant in closed, relatively soundproof quarters, however some were realized in areas close to noisy classrooms or recess areas, affecting audibility of recordings. Audibility was also affected by language skills in Spanish, a second language for some teachers whose native language was Quiché, Cakchiquel or Tzutujil, but the assistant's native Spanish skills ameliorated challenges related to deficiencies in grammar or vocabulary, assuring accuracy of transcriptions. This is important to understand as many of the teachers engaged occasionally in the use of rambling or incoherent phraseology, characterized by the omissions of key vocabulary or linking language, alternative meanings for verbs, and colloquialisms in expressions commonly understood among locals and interpretable by the native speaking assistant.

All recordings were taken on an Olympus Digital Voice Recorder VN 3100-PC, and nightly transferred to a password-protected PC, making them available for playback via Windows Media Player. After transfer to PC, interviews were erased from the digital recorder. The researcher, sitting close to the interview dyad, maintained field notes as observer of each interview. Interviews varied considerably in length, due to the liberty afforded the respondent to speak extemporaneously, free of time limits, to encourage segments of well-focused expression which revealed details pertinent to the research questions.

Field notes were maintained in a three-ring notebook, for describing interview surroundings, for constructing a general outline of each interview, and for indicating observations or interpretations of specific interview moments. Prior to each interview, the research assistant warmly greeted each teacher, interchanging personal information about family, friends and activities during periods of up to twenty minutes. Subsequently, the researcher reviewed the contents of the consent form with the teacher, after which each form was jointly signed by the teacher, and the research assistant in the role of interviewer. Upon completion of each interview, the teacher was presented with a package of English language teaching materials, donated by a US publisher and valued at between \$80 to \$150, followed by the express invitation and encouragement to attend the PGI meeting and dinner scheduled for the first day of July at the Centro Educativo Luciano Pavarotti: Programa Utzilal Tijonikel, a school in San Lucas which was operated by the Fundación Rigoberta Menchú Tum, and situated at the shoreline of Lake Atitlan. Primary evidence for the interviews was maintained on the digital recorder, and the

contents were transferred to a laptop computer locked for confidentiality with the researcher's passcode. Other evidence for the interviews was comprised in the field notebook and in the written documentation of the agreement to the standards for confidentiality which were reviewed and signed by each Teacher previous to interviewing.

Precoding of Interview Responses

Upon completion of each day's interview schedule, recordings were digitally transferred to the laptop computer. These recordings were available for playback via Windows Media Player software and could be adjusted for sound quality and speed as needed for transcription. Using the laptop with headsets, interview responses were transcribed through dictation in Spanish to the researcher who recorded the responses on color coded worksheets. Field notes were consulted to gain additional insights into the responses. Daily, interview responses were added to the worksheets. As outlined in section 3, responses to interview questions 1-5 were separated into categories of (pink) attitudes about computers and the Internet, (yellow) professional goals, and (green) social influences upon Internet usage, aligning to the subjects of research questions 1, 2 and 3, as shown in in the following table.

Table 3

Matrix of Research and Interview Question Ties to Response Categories of the Representative Statements

Response Category	Attitudes About the Internet	Professional Goals	Social Influences
Color Code	Pink	Yellow	Green
Research Question(s)	1	2	3
Interview Question(s)	1	3, 5	2, 4

The research assistant utilized earphones to discern and repeat the language of the recordings, in which volume, environmental noise, speed of expression and regional accents combined to complicate oral transcription. The researcher carefully documented the assistant's utterances in handwritten form, and the research assistant rechecked each statement or group of statements before proceeding. The research assistant identified key statements which related to any of the research categories as described in the table above, and supported the researcher to cite portions of those statements on the colored worksheets. Upon identification, duplicate types of responses were noted. Additions to these worksheets were documented upon completion of each day's interview schedule.

Notes were added to the color-coded worksheets daily, the researcher taking dictation as the research assistant repeated out loud the contents of the interview recordings and adding key phrases to the worksheets. This process, although laborious and time-consuming, was valuable because, as a native speaker of Spanish and familiar with the accents and specialized vocabulary of the teachers, she was able to easily decipher statements which were quickly spoken, low volume, or utilizing confusing grammatical structures or vocabulary. The handwritten, color-coded worksheets were retained for the researcher's files. Comments which may have presented discrepancies with common response patterns in interviews or which may have represented exceptional experiences, were not omitted in the process of precoding. Responses which diverged from the interview questions were retained in transcripts to contextualize the pertinent responses. Six samples of transcripts in original Spanish format with English translations, including the aforementioned letter, number and color codes are located in Appendix A,

and are also cited with other interview responses to demonstrate the how responses were culled from the interviews.

After developing the color-coded worksheets, the researcher and the assistant grouped identical or similar responses into sets and converted each set into short, first-person, representative statements. The statements were transferred to a 23” x 58” chart with three-color coded columns identical to those used for the worksheets, and were also reproduced as five sets of color-coded sentence strips.

The researcher maintained handwritten field notes during interviews to begin the process of identifying factors of Rogers’s perceived attributes, references to social capital sources, and potential implications and similarities of selected responses. The researcher reflected daily upon the interview responses to embed number and letter codes representing, respectively, ties of the barriers and supports to Rogers’s five perceived attributes of innovation, and the sources of the barriers or supports as originating from within bonding, bridging or linking social capital networks. These codes were prepared for the purpose of triangulating findings which would be presented by community teachers and educational leaders in the PGI, based on their interpretations of representative statements attributed to groups of interviewed teachers, whose identify remained confidential throughout the process. The representative statements were to be prepared as prompts for deriving findings in the PGI about barriers and supports to Internet usage for teacher professional development, linked to the research questions.

The representative statements were recorded under the color-coded response categories, linked to research questions 1, 2 and 3. Answers to research question 4

represented the culmination of findings linked to the preceding research questions and resolving the research problem, as the final step planned for the generation of findings in the PGI. A reproduction of the representative statements chart is found in Appendix C, including the English-language translation. The researcher saved and stored the original chart, and also photographed the chart which featured block 1-inch lettering for ease of viewing during the PGI meeting on July 1, 2008. The researcher also saved and stored a sample set of the sentence strips and a plastic sentence strip holder. Also prepared for each small group were three sheets each of lined newsprint measuring 35 inches by 23 inches, paper tape, colored markers, and a yellow plastic sentence strip chart measuring 12 inches by 36 inches.

Preparation for Derivation of Findings

To preclude bias in the analysis of interview data anticipated for use in the PGI, indicators of the number or letter codes, of the identification of any statement as a barrier or support to Internet engagement, or of the frequency of responses, were excluded from the chart of representative statements and sentence strip sets designated for group use. Notation of those indicators was limited to documentation within the interview transcripts. These transcripts were reserved for exclusive use by the researcher, in tandem with the researcher's field notes and prior research, as sources for triangulating the findings anticipated as outcomes to the PGI. The publication of the representative statements in chart and sentence strip formats was the culminating step in the precoding of the interview transcripts, preparatory to their analysis by community teachers and

Quotes from all 20 interviews were cited in an analysis of how teacher comments were assigned to response categories and coalesced into representative statements. Statements unique to one or two individuals were presented in the body of this study to facilitate understanding of uncommonly-cited cases, which might have also generated discussion in the PGI.

Preparation for the Permanent-Group Interview (PGI)

One day previous to the PGI, the researcher and research assistant led a four-hour briefing meeting at the Centro Educativo Luciano Pavarotti in San Lucas Toliman. There, they met with Sr. Wielman Cifuentes, the educational coordinator of the Fundación Rigoberta Menchú Tum, a locally-respected indigenous education leader who would lead the permanent-group meeting, and the same individual whose input was integral to the initial planning behind this study. As the original supporter of the online training project and key local promoter of the study, the FRMT educational coordinator was the natural choice among local educational leadership to plan and direct the PGI, to derive findings indicating ways to enhance participation in online teacher training. In this meeting, the purpose of the study was revisited and the interview process was described in detail.

Subsequently, each of the interview responses was discussed and Sr. Cifuentes posed questions and comments to gain an in-depth understanding of the varying points of view expressed by the teachers, and was observed to take approximately six pages of notes during this segment of the meeting. Following the exposition of interview responses, an agenda for the permanent-group meeting was composed, based on an interchange of ideas between the researcher, the research assistant and the education

director. All agreed from the onset that the purpose of the gathering would be to identify, from the perspective of the local educational community, the approaches which would be of most efficacy for enhancing and expanding the quality of online learning opportunities for the area's teachers of English and to construct a profile of the ideal online teacher-learner. These approaches were derived from an analysis and discussion of the responses gathered in the twenty teacher interviews. The finalized agenda is attached in Appendix I.

The meeting was convened by means of personal invitations and a meeting flyer imparted over a two-week period, and by which all potential participants were advised of the 5:00 p.m. meeting on July 1, 2008 at the conference hall of the Centro Educativo Luciano Pavarotti to be followed by a banquet in their honor, funded by the researcher. In line with indications of the PRA methodology, invited to the permanent-group meeting were teachers who had participated in the onsite teacher workshops and online classes, principals of local schools and teachers invited by them. The meeting space was prepared by arranging tables and chairs in a hollow square design with chairs placed around the exterior rim. Also placed in the conference hall were a table with laptop and LCD projector, and a table for meeting supplies. Two rows of chairs were placed at the back of the hall for additional seating, and a table set away from the work environment to be used by the researcher for notetaking. The color-coded summary response chart was attached to the front wall using adhesive squares. Water and paper cups were made available on a small stand. Recorded music welcomed participants to the permanent-group meeting. At the designated start time, two teachers had arrived, and by three quarters of an hour, only

four. By 6:15 p.m., a total of 42 participants, including the researcher and the research assistant, had assembled and the PGI meeting began.

As planned, Sr. Cifuentes introduced the researcher, who provided an overview to the project, including a brief description of the forms of social capital and the process of diffusion of innovations. Next, Sr. Cifuentes made a general call for self introductions. While some gave brief designations consisting of name, grade taught and school, five of the teachers spoke extemporaneously about the importance and value of their online education experience and one teacher read a poem she had composed to honor the event which she gave to Sr. Cifuentes for delivery to Sra. Rigoberta Menchú. Sr. Cifuentes briefly addressed the group on the nature and value of online education for the professional development of the area's teachers, followed by instructions to the group on how to organize themselves for small group analysis of the interview data. Evidence for these processes included signed consent forms which were saved and stored by the researcher, and field notes. Failures in the recording process due to noise levels from multiple conversations resulted in an audio document of inconsistent quality, counterbalanced with detailed field notes.

Derivation of Findings in the PGI

Purpose of small groups. In line with principles of community-driven research, as described by the PRA, the assurance of accuracy in the derivation of findings from the representative statements in the PGI was a process monitored by Sr. Wielman Cifuentes, a locally-respected educational leader and representative of the FRMT. The PGI was designed to synthesize the representative statements about usage of the Internet to create

findings to address the four research questions. These findings were to be encompassed in a profile of ideal social capital factors for resolving the research problem of enhancing area online learning for teacher professional development.

In preparing the PGI participants to derive findings to the research questions, Sr. Cifuentes reviewed the three types of social capital sources whose norms and values could positively or negatively affect engagement in online learning for teachers. These forms were presented to the group as bonding social capital (peers), bridging social capital (local experts) and linking social capital (human resources representing guidance or assistance from outside the immediate society). He asked the participants to work in small groups to connect the representative statements to social capital sources and to identify patterns and priorities in those statements as they related to improving the use of the Internet for professional development. These patterns and priorities represented a profile of the ideal online teacher learner and could be used to enhance social supports for other, less participatory, teachers. These representative statements are presented in the next section of this study.

Steps for deriving findings. Sr. Cifuentes oriented the group to the chart of representative statements, labeled for three categories tied to research questions 1, 2 and 3. After division of the 42-member group into five numbered teams assigned by seating order, the representative statements in sentence strip sets were distributed with poster paper, markers, tape, glue sticks and plastic pocket charts for each small group. FRMT staff accompanying the education coordinator functioned as small group facilitators. As requested, each team collaborated to open and examine the tri-colored sentence strips to

prioritize barriers to teacher Internet usage and create a profile of ideal supports to enhance participation. Notably, each of the five teams interpreted small group instructions in unique ways, developing the findings through a variety of presentation formats.

The five groups, upon reading the representative statements on the sentence strips, were observed by the researcher to organize the data in a variety of ways to derive their findings. This variance was recognized as a normal effect of group dynamics related to interpretation of instructions received. This variance also suggested different levels of skill in performing the tasks of prioritizing and profiling as requested by the meeting leader. Instead of prioritizing the statements according to their perceptions of importance, Group 1 sorted the statements according to their interest in a few, selected subjects, including women's issues in education. Groups 2 and 5 (which included Sr. Cifuentes) indeed prioritized the statements and sorted them into the three color-coded response categories. Group 3 talked at length about a few isolated statements and was observed to have ignored most of the statements, and the group's actions may have indeed constituted prioritization, however was not observed to have carefully reviewed all statements before making the selection. Group 4 eliminated some statements and sorted the remaining statements into positive or negative influences but did not prioritize or order these statements. Because of the divergence of processes employed to select statements for discussion, the processes could not be compared, but the findings of the groups provided significant details which could be compared and synthesized with alternate responses between the groups. Group 1 appeared as the first to take initiative to record the

observations with markers on poster paper. Other groups quickly followed this example. Some groups created more than one page to the poster presentations.

Alterations to the agenda. The original objective of the small group activities was to generate findings as a profile of ideal social capital sources for teacher Internet usage. This agenda was modified at the request of several participants who sought out Sr. Cifuentes, as meeting leader, to cut the analysis phase short to allow for small group presentations. Rather than a discussion about findings to resolve the research problem, the teachers wanted to present the findings using their group posters which represented answers to only the first three of the four research questions. Asked for permission to alter the agenda, the researcher in the role of non-directive facilitator, reminded Sr. Cifuentes of his independence in decisions about the meeting process. Subsequently, Sr. Cifuentes ceded to the groups' requests to quit the analysis and to present their preliminary findings for his consideration.

Subsequently, the agenda was modified to allow a representative from each team to display and present their poster of findings. While each group's content and presentation styles varied, all coincided in the call for improving teacher initiative and enhancement of supports for learning about technology. Notably, only two of the five teams followed the injunction of the meeting director to prioritize the representative statements before deriving findings. One team chose instead to comment on isolated statements, and two teams grouped their presentations around representative statements connected to a theme chosen by the team. The script of each team's posters is reproduced

with exactness of spelling and orthography in Appendix J, with English translations provided.

Presentation of Findings of Teacher Interviews Within the PGI

Overview

The findings presented by participant teams in the PGI were based on representative statements from the teacher interviews, and were tied to research questions 1, 2 and 3. The derivation of findings to culminate the study, embodied in research question 4, was originally a task planned by the meeting leader for the PGI teams as a whole group discussion, however was referred back to the meeting leader by them, and was treated immediately succeeding the discussion of the first three sets of findings. The participants of the PGI, in their five small groups or teams, interpreted representative statements to derive findings under the headings of *Attitudes about the Internet and Professional Goals Tied to the Internet and Social Influences upon Internet Usage* (see Appendix C). The subtext of these representative statements, developed by the research assistant in grouping interview responses, provided a deeper understanding of the meaning of each statement and their connections to the group's findings. Significant quotes from all interviews were reproduced within the body of this study to demonstrate how they were collected together by the research assistant, as facilitated by the researcher, to compose the representative statements. Representative statements made as the basis for findings by the community educator teams in the PGI are presented with the key quotes that preceded their formation. As each representative statement is presented, responses to the interview questions are shown, with commentary to add context to each

quote. These are followed by quotes of the written findings of the teams, with full reproductions of their findings presented in Appendix J.

Findings from Teacher Interviews for Research Question 1

Teacher interview data which addressed research question 1 was grouped into response sets which formed the basis for the representative teacher statements quoted in this section. The representative teacher statements listed in this section were cited in the small group presentations in the PGI, during which findings were presented relative to the teacher interviews. The first class of findings generated by the PGI teams fell under the category of Attitudes about the Internet, which ties to research question 1: What past, present and future concerns about the Internet for professional development have these teachers experienced or expected to experience? Representative statements, interview quotes, team findings and the researcher's comments upon those findings are as follows:

The Internet is a marvelous source of information. Teacher 9 cited the attribute of trialability, saying the Internet “opens the doors to the world,” and Teacher 3 concurred, describing it as a “powerful tool for learning.” He, as many teachers, described in detail the resources which they have discovered by searching on the Internet-resources which have ranged from academics to entertainment. Teacher 4 revealed her role as an agent of change and a social capital bridging force for family and friends to whom she has offered assistance to “find any kind of... (information) looking on the Internet.” Teacher 6 found the Internet to be beneficial not only in her “studies in the university, but also (for)... personal preparation, for example... to take care of (the)... baby.” Teacher 17 summarized his experiences in this way:

Well, besides a lot of information, related to a variety of subjects that can help one as a teacher, I always look for one or another ways of how to share with the children... After all, it is part of one's development and is knowledge that one can share with the children.

Teacher 19's assertions correlated that the Internet "opens to me a panorama of subjects" but deferred to her husband's experience: "My husband! He indeed goes onto the Internet and he knows so many things-about everything-about everything."

Learning to use the Internet is a positive challenge. Various teachers depicted the Internet as a relative advantage according to Rogers's perceived attributes theory. They viewed learning about the Internet as a positive challenge for their professional growth and development. More than one teacher indicated that they used the Internet for finding sources that are employed for completion of assignments from a national public university or to exchange ideas and information with fellow students, some of whom they have never met. Others associate learning to use the Internet with increased opportunities for financing their studies. One teacher, number 3, cited his goal to:

obtain a scholarship loan to study my master's degree. I have desires to study three master's degrees but what I like most is higher education. Another (area) that I like is community development. It's my area-something I like, because I know what rural poverty is. And, thanks to Ajaw [God]-thanks to God, because not everyone has this habit (of Internet use).

Teacher 3 cited "searching for a scholarship online" as a goal, and as such substantiated the notion of linking social capital or sources in networks outside the society as a potential catalyst for the diffusion of Internet usage within a rural community. This concept is reinforced by Teacher 7 who asserted that "other teachers... ha(ve) a different image of what it in reality could be... (if only) my teaching companions, apart from

coming to the onsite workshop, would have the opportunity to go in(to the Internet) and see how it changes them.”

Touching a button will cause damage. Teachers 15 and 16 most eloquently described concerns voiced by a number of the respondents in their description of the perceived complexity of Internet usage and the reactions experienced by themselves and others when changes appear on the monitor. Teacher 15 stated, “I touched something and all that could be seen was a line of colors. Then the technician came and said to me, ‘You touched something’, and then he told me, ‘Since you don’t get it, you’re going to cause problems (here)’.” Certainly the technician, either of a telecenter or an Internet café, did not consider the need for discretion as part of guiding novices through the first stages of involvement with online learning. Teacher 16 described her concerns as:

how to go in, how to call up (a web page)... I get very nervous that I am going to break the machine. I know I have to study a lot to know how to operate the Internet well... Since one doesn’t go (online) regularly, one perceives it as (even) more difficult.

These comments were mirrored by other teachers who referred to their feelings of ineptness in addressing basic Internet skills. It is an easy transition to infer from comments such as Teacher 16 above, that an ICT expert, in the role of bridging social capital, levies influence over confidence building for using Internet technology, and represents a potential barrier for squelching persistence in adopting new skills.

It is necessary to know English to use it. An interesting reaction noted in more than one respondent was a belief related to Rogers’s notion that perceived compatibility would affect willingness to adopt an innovation, a belief grounded in the perception that knowledge of English was a prerequisite for learning to use the Internet. Teacher 1

explained, “I have not-not-not ever seen English in print and I attempt and it never works out... As such, one advances little...” Teacher 3 commented,

Basically, eh-I have to recognize that I am lacking a lot in English, and really, it is precisely English-English. But, definitely I’d like to go into... academic bodies (and) into research sites and I’d like to share my experience as a professional, as a Mayan-as a Mayan professor. I would like to open a space (on the Internet), but the linguistic barrier is English.

Both teachers, as cited, could benefit from training by local experts who represent the bridging aspect of social capital. The second Teacher, in fact, would like to reach sources of linking social capital, but detains himself under the false belief that English is a prerequisite for interchange and cultural acceptance.

Using the Internet doesn’t interest or motivate me. Only one teacher openly derided the Internet, negating the notion of relative advantage. Teacher 18 referred to many factors which serve as barriers to his usage, including a chronically ill spouse, debts requiring him to work two teaching shifts and general discouragement about personal progress. Most notably, teacher 18 explained:

I haven’t gone on, I haven’t gone on... Really, I don’t go onto the Internet... I feel prepared because practice is what has made me (a good teacher), not the Internet... Really, I go onto the Internet only when my children do.

Another barrier which may contribute to apathy or derision of the Internet could be proximity to retirement age. It is notable that, of the twenty interviewed teachers, those who voluntarily told of their upcoming plans to quit and take out their teacher pension were also all inactive relative to their online participation with the free coursework offered during 2007-8.

I lack experience with the Internet. Many teachers openly mentioned their concerns about Internet complexity, and associated inability to take on the task of learning to smoothly operate the apparatuses connected to Internet usage. Teacher 1's comments are insightful:

The truth is, the only thing that I do is enter into the web page and struggle to reach an address. I really feel bad about it. The truth is that I lack a knowledge about what it is, how it is operated, how to write and in what form, and how to utilize it. The only thing that can be done now is-is this! Stick my address into the web page and go in there and that's as far as I can get. I feel like what I know about the Internet is miserable. I am lacking a lot. Really, a lot.

Teacher 5's statements are similar in nature to other respondents, in her comments that "at least for me it's been really tough because the truth is that... I am empirical. Me, what I do (online) is because I have toughed it out." Others rate the low quality of the devices which support Internet usage, such as in Teacher 6's comments that "the equipment is damaged-very slow" and "messages... say I can't have access and I don't know why." Other comments, such as from teachers 18 and 19, referred to inability to manage basic functions of entering the Internet.

Findings from the PGI for Research Question 1

The five participant teams highlighted the importance of the preceding representative statements in their analyses of the present and future needs of their community to derive maximum benefit from free online coursework by improving their attitudes about the use of the Internet and computers. In their opportunity to review, prioritize and comment upon the representative teacher statements on the sentence strips, the small group teams cemented their understanding of the community teachers' challenges for using the Internet. Although given uniform instructions to prioritize and

comment upon the representative statements, each of the five teams developed a different approach to organizing and interpreting the statements based on their shared knowledge and concerns for improving the education of the community's teachers online.

Group 1 indicated the need to “lose fear of technology” citing the need to “update.” During the presentation of group 1 findings, it was made clear that technology was a needed innovation. Group 1 enjoined that although access to the Internet was made challenging by the paucity of available sites and work stations, no excuses should be made for abandonment of new opportunities. Group 1 also pointed out that the norms for teacher certification were on the uprise and all, but the most currently-trained teachers would be subject to unemployment based on their relatively lesser credibility and knowledge if they would not make use of Internet and other computer-based resources.

Group 2 recognized that learning about the Internet as a form of improvement “so they [school directors] will continue to employ” them as teachers. They cited knowledge of English as an essential facet in this process. Recognizing the value of English as a commercial language alongside Spanish in their setting, and as a principle language of the Internet, the presenters demanded that those present in the community meeting go out and instigate change by promoting the free online coursework and encouraging other teachers to take the chance to try out new technology. They added that students need English to progress within university settings, and that all, as teachers, are the gatekeepers, so what they do to improve would and could affect the lives of many students.

Group 3 expressed interest in attending “workshops for motivation and learning ... about the advantages of technology.” Group 3 focused attention on the role that workshops could play for improving the attitudes of teachers, not only about the value of the Internet as a resource, but of their own potential as change agents and opinion leaders to set the standard for teachers around them to take on the challenge of engaging the Internet. They stated that the Internet is not only a source for educational interchange with a fellow teacher or mentor, but also for access to a vast library of resources, previously out of the reach of most, and now freely available online.

Group 4 considered learning about computers and the Internet as a “positive challenge” revealing their current levels of inexperience with the same. Group 4 presenters considered most teachers as ready and able to take on learning about the Internet and computers, even in the case of settlements or remote villages, from where teachers would have to travel a distance to gain access. For those who expressed disinterest, the group recommended “Internet courses” for orientation, similar to the injunctions of group 3, and also suggested more community meetings such as were the context for the present meeting. They suggested that maybe the disinterest expressed by some was the result of not knowing of the resources available via the Internet.

Group 5 presented words of encouragement to motivate action, such as “Experience is acquired with practice and persistence.” Group 5’s approach to presenting was not to prioritize barriers or concerns but to answer selected representative statements with injunctions or retorts such as cited. For each selected statement, Group 5 presenters demonstrated a will to overcome barriers and exercise vision and discipline in taking

action against the forces of time, money, distance, work and home duties, and technology ignorance. Concerns or priorities which could be attributed to the group were not revealed. Group 5 interpreted the purposes of the presentation differently, in that no mention of personal perceptions or challenges were cited.

Findings from Teacher Interviews for Research Question 2

Teacher interview data which addressed research question 2 was grouped by into response sets which formed the basis for the representative teacher statements quoted in this section. The representative teacher statements listed in this section were cited in the small group presentations in the PGI, during which findings were presented relative to the teacher interviews. The second class of findings generated by the PGI teams fell under the category of Professional Goals, which ties to research question 2: How well did the Internet meet needs for professional development in relation to the grade levels to which each teacher was assigned? Interviews lacked a clear definition to attach to the concept of grade level assignments, but did indeed produce findings to answer the question of professional development needs as met via the Internet, and representative statements, interview quotes, team findings and the researchers' comments upon those findings as follows:

I want to promote the success of the students I teach. Laungani's description of non-Western cultural commitments to the group well-being over individual progress held true in the comments from many teachers whose first response to a question of their educational goals was the progress of their students: "The little bit of English I know is what I want to teach to them, so that the next year they can enter into middle school,

ready to go,” commented Teacher 1. The next respondent, Teacher 2, stated, “When I taught sixth grade... I was on a plantation near the (Pacific) ocean... English is taught... and when (students) start middle school there, it’s really tough for them... (and that’s) where they gave me the opportunity to work.” Teacher 5 made it a point to help more than most teachers. She stated, “My parents died and I suffered a lot... and I have to give... I’ve paid the tuition for some of my students.” Teacher 6 looked for lesson ideas on the Internet, citing her female students’ interests, including “many kitchen recipes... manual activities... and weaving.” She cited the help of the online professor, representing a form of linking social capital, as “very useful to me.”

A teacher in an isolated settlement school with a computer but no Internet service shared a similar commitment, stating “I understand why the students didn’t come (to school), but then, well, I hardly-hardly knew how to teach them (Internet) skills but I had some knowledge of computers. I used-I went into programs to use areas (sites) that we knew about and collaborated on.” Teacher 16 ascribed her commitment for online learning to fulfilling the pressing needs of her students who attended school in a roadside settlement about twenty minutes north of Lake Atitlan:

This community suffered a lot two years ago. Can you see over there from where we are? (points to a wooded mountainside) They were there at the base of the volcano, and because of a storm due to the famous Hurricane Stan there was a mudslide. A lot of people died. Many of the women lost their husbands-ended up as widows. And, many of the children that we have here [in the school]-many are orphans. Whole houses were swept away. Because of that I want to each day prepare myself more, giving away the resources that are here, eh-and in that way supporting their education better, because I know that it’s a small place here but many things can be done also.

Other teachers, such as Teacher 7 described a commitment to social progress through improving as a teacher via the Internet. Teacher 15 emphasized the need to encourage students to learn how to work online, but noted, “There’s a lot of apathy... out of fifty (students) maybe ten are motivated... They don’t like to investigate (online).”

I want to learn English. Almost all of the teachers prioritized the learning of English as a key goal for using the Internet, Teacher 17 describing the learning of English “as my greatest dream” and “the dream I have carried with me since my youth.” He continued by relating how learning English motivated his involvement with the professional development coursework:

I asked among my (teaching) companions and (said), “Where is [names other teacher]?” “She went to a workshop,” they said. She came back in the afternoon and [she] said, “Won’t you go? Don’t you want to go?” “To what?” I say. “To an English class.” Before she could say everything, I [said], “I’m going! I’ll convince the principal so we can go [together]!” because that’s what I had most longed for in my dreams... I said to my papa, “I want to learn. I want to learn.”... Then, I said [to myself], “This is an opportunity I can’t throw away. There’s never [an opportunity] like this.” At times one drowns in their own dreams, and I said to my brother, “How can I make do with English? Who can help me? Who can help me?” I said... As it is, one can’t get help here. [This] is like a dream made real.

Teacher 17’s effusive narrative encapsulates the thoughts of many other respondents, such as Teacher 2, who describes the learning of English as “my yearning,” thanking God because through “this opportunity [to study English online] that was given me, they gave me more opportunities here...My desire is to learn English.” Teacher 19 clarified, “[the goal is] learning more about using the Internet and about English, even if the English is pronounced right or wrong. Because, [the online lessons] will help us starting with the basics.”

It is notable that while teachers want to improve their teaching skills for English instruction, their own level of need and desire to learn to read, write, and speak English is of equal or greater strength, and this signals that an important component in online coursework for learning how to teach English must include, for this community, a strong component of learning English, in a sort of learn-while-you-teach format. Some, such as Teacher 4, took the initiative to supercede the online course content and independently explore online English learning resources. She substantiated the notion of the Internet as providing the attribute of relative advantage:

When I have some difficulty with the Internet, eh-more or less, I look through the Internet, uhuh? It is in this way that I have found much information. I am exploring in a page of English that is very good-the truth is, is has been of great value to me. It has to do with English grammar and many other types of forms.

Both Internet resources and Internet-based contacts fall within the category of linking social capital, because both act as catalysts for the diffusion of new practices within a rural community, and the two are equally effective as reference points for improvement of knowledge and skills.

I want to progress by studying online. The teachers saw the opportunity for free Internet usage at the Pavarotti school as a unique offer, motivating teachers to consider new, unexplored possibilities for their own and others' professional development. They recognize the limitless resources of the Internet. Teacher 2 shared, "To use it, well it's more work way over there, [and] better for me to come here because thanks to the professor [online instructor], I am receiving free instruction, you see? And I am very thankful." Like others, teacher 2 acknowledged a level of comfort experienced because of

the availability of free CTC usage at the Pavarotti school, a resource which encouraged her to seek to progress by studying online.

Those of the teachers who participated in the project and were selected for interview, which represented a teacher workforce employed in town or in more remote villages and settlements, some reachable only by pickup truck, expressed aspirations to develop professionally which, although motivated by the offer of free Internet usage, can't be satisfied with only occasional or inconsistent scheduling of visits to San Lucas for free Internet services. Teacher 3 revealed:

Now, I would like to study a master's degree or even a master's 'online', in other words, via Internet, but I can't [from a remote village] because there, one has to pay for the time. One must pay for enrollment. Oh! In truth, to study at this point in life is a luxury.

In contrast with the frustrated aspirations of teacher 3 who resided out of town, teachers 6 and 9, both residents of San Lucas, were apparently the most advantaged of all teachers for utilizing the free Internet services at the Pavarotti school in a university context.

Teacher 9 indicated that, by preparing for university assignments through the exploration of online resources, she could recognize the Internet made "the [university] exams... much easier."

Teacher 6's input was much more extensive, in that she pointed out that, although the Internet ameliorates her university course tasks, not having a home computer and Internet services nevertheless forces her to take time away from her children and husband. Hers is perhaps the most revealing take on how the challenges and commitments faced by a female teacher in a remote setting such as San Lucas, for

balancing family and work commitments with university training, and how the Internet did and could support that balancing process:

I am studying on weekends, specifically I am studying over there in Solola, in the University of San Carlos [satellite campus]. And, I am about to finish a bachelor's degree in education, in approximately one year, so I'll have it done in approximately one year... but it's tough for me, because I have two children in my house, and work.

Her comments elucidated issues of compatibility in two ways. While Internet usage was perceived by her as compatible with distance learning activities at a branch of a national university, yet it conflicted with priorities related to home and family, although supported by relatives:

And, really I get discouraged because my husband takes care of my oldest daughter, and my parents, my father-They are the ones who motivate me. They support me... because it takes time, and I don't want them to suffer because of my studies, so, if they need something, I don't want that they [Changes the subject.]- So, I worked at twelve at night and in the early morning. I got up at three in the morning in order to finish an assignment.

These statements indicate the value and necessity of sources of bonding social capital networks which are embedded with norms of mutual commitment and goal sharing, leading the way for agreements to assist in the fulfillment of tasks which may represent impediments to the commitments associated with university learning. Although Teacher 6 acknowledged the support represented by contact with online prayer companions, her apparent overarching concern was assuring that the needs of those closest to her were met, either by her or by her husband or parents, in the surrogate role.

As an instrument of communication with linking sources of social capital and as a provider of the relative advantage attribute referred to by Rogers, teacher 6 surmised that online learning could enhance the quality of her university preparation. She affirms:

[A]nother thing is the Internet has alleviated me of many expenses-buying books and everything. So I believe that it's going to continue forming a part of my...professional development, because a lot of the work in the university is done over the Internet... I think that (it will be) a part of me always... I have realized that the Internet is very indispensable in my profession...I have realized that it's necessary to have it now, not so much as a luxury but as a very present necessity, and if I could have it in my house, I would. (Laughs) Fabulous! And my studies and my work would improve a lot.

In all, teacher 6 has verbalized the range of possibilities and benefits of online learning enhancement of progress in university studies. She describes a lifestyle which substantiates the notion that, despite her remote location and duties, it is possible to use the Internet for improvement of her university performance. Teachers such as teacher 6 represent the category of opinion leader as set forth by Rogers (2003).

I want to improve myself so others will continue to keep me employed. Not discussed openly in the interview settings, but implied in interviews and in side conversations, the researcher deliberated with the research assistant for the inclusion of this representative statement which symbolizes an unspoken reality among teachers. As clarified by Sr. Cifuentes in his June 30 meeting with the researcher and assistant, public school teachers must annually demonstrate attendance at qualified professional development workshops, which includes the approved onsite and online activities referenced in this study. While public school teachers may accumulate approved professional development hours leading to salary increases, private school teachers must also demonstrate this form of compliance with the only benefit of maintaining their employment. Although most of the interviewed teachers operated in a public school setting, the private school teachers were subject to these concerns. One teacher, number 6, added to the argument:

[The principal] told me, “The best thing is that you continue studying in the university to obtain a doctorate in education,” and the principal at that time motivated me a great deal, because of which I made the commitment to continue studying, because he told me that it was going to be beneficial to me. That, in the years to come, more education would be required of me. And, what do you think of it that (now) there’s more competition? And also, when I got married, my husband said, “Keep studying,” and because of that, two years ago I became motivated.

These comments led to the clarification of the role of local experts, as bridging social capital, and significant associates, as bonding social capital in supporting or deterring professional progress. Their role in motivating others, particularly women, to supercede personal and professional boundaries in the pursuit of a teaching job and higher education was apparent.

Given that in San Lucas, primary school teachers may be employed on the basis of completion of the ninth grade, employees are selected from a large applicant pool through the intervention of respected educators. Participation in professional development activities is one way to hold on to a teaching post in both public and private settings. Under these circumstances, the role of established teachers and administrators in public and private schools for choosing, and sustaining the employment of, teachers is significant to professional survival. Because they are respected as opinion leaders, these established professionals can represent social capital bridging factors, effecting supports or barriers to the continuity of teachers in a long-term online learning project. Online learning can benefit teachers through participation in just a few courses or in alignment with a university degree. Since university studies were previously considered out of reach for all but the most-monied community members in remote, rural Guatemalan sectors, Established teachers and teacher administrators can significantly impact the growth of a

new approach to higher education through their tacit and direct support for teacher participation.

The distance to get to a telecenter (CTC) creates difficulties for me. The teachers who either taught or resided in aldeas, or settlements, outside of San Lucas Toliman town boundaries, and in other remote villages supplemented understanding of the need for more general free access to the Internet as a prerequisite form of infrastructure to support the viability of goals for sustainable, long-term professional development. Sr. Cifuentes discussed with the researcher, the possibilities of coordinating with a few other in-town school sites holding computer laboratories, with the purposes of generalizing free Internet services over a wider expanse of town, since the Pavarotti school is lakeside, downhill, and not centrally located.

Teacher 1 related how getting to town to utilize the Internet at the Pavarotti school involved making a carefully-planned trip, via pickup, from a forest village to town, returning to the departure location before a set hour or facing the expense and inconvenience of an overnight stay and possible late arrival on the next work day. Together with the issues of low pay, “time and bus fare” were two principal concerns of teacher 1, whose distance was overshadowed by the need to work two shifts, disclosed after a prompt to understand why he had not been using the Internet:

We could-eh-I don't know, we could say eh-in another way, the truth is that let's say that in the area where we work, the salary that we receive is way too low, too low, then. It's very little, and, as a teacher let's say, one has to look for other alternatives for work-eh-since I don't-don't-don't [breaks off]... I have to look for another job where(ever) it is. We have to look for another job, disgracefully.

Most surprising about teacher 1's comments, which first brought to light in this interview series of the need for two jobs to meet financial needs, was the paucity of other professional opportunities to fulfill the economic gap. He divulged, "[T]he Internet is hard for me because of bus fare-bus fare and time. Eh, really I (am a) teacher in the mornings, and by midday I dedicate the afternoon to working in the field." Without time, proximity or financial resources on his side to support desires for professional development, teacher 1 made public in his interview a condition he stated was shared with his companions in a remote village, of the need to undertake manual labor and all of his daylight hours to meet basic financial needs, and without personal transportation, virtually locked out of the potential to utilize a free Internet resource during hours permitted by any form of public transportation, which in his case, was a truck bed.

Another out-of-town participant, teacher 3, affected by the same concerns, has established more continuity in the routine of Internet usage, nevertheless has not become involved with online learning, although available to him through the project featured in this study. "Only once a week do I review my mail because I don't have money to come every day. I had to go fifteen kilometers in order to-and the only thing is there is-there is no money." Both teachers make clear that salaries, together with distance from an Internet terminal, affect their participation. This reality for them and teachers in similar conditions demonstrates how the attributes of observability and trialability represent null factors, in the way of no opportunity for practicing or observing others to develop Internet skills. Although they acknowledge the relative advantage of the Internet for enhancing professional development, they cannot benefit from offers of free usage.

The cost of the Internet café or home service is too high for me. Closely tied to the barriers of distance and time for utilizing the Internet in a public location, and related perceptions of trialability and observability, is the inability to apply personal funds for the acquisition of home Internet technology. In essence, low salaries disenfranchise potential adopters from acquiring the means to connect to the Internet. Again, teacher 1 describes what happened when he followed up on an advertisement:

[L]ike I told you, the money problem? Commercials on the television, like I told you, about the Internet? Like I told you, the problem here (inaudible). Just a while back I asked since on the television, the commercials from-Turbonet-I thought that (inaudible) would work but it needs an antenna and a lot of other things. That made it very complicated to get-with the antenna and with a lot of things (laughs)... but... there's not enough, not enough, not enough-recently when I asked about it, they were asking for 300 (quetzals) monthly [aprox. 40 U.S. dollars]-300 and more.

In a community where a teacher's starting salary is equivalent to 200 U.S. dollars monthly (or \$1.40 hourly), these prices are fully out of range, and shed light on the attribute of compatibility. Turbonet is not to blame for charging their rates, fixed by issues of supply and demand, but other forces, namely linking social capital networks, could be marshaled to ameliorate the salary barrier which directly affects buying power for installing home Internet usage, let alone possession of a home computer for local teachers.

Town-dwelling teachers also eloquently painted the scene of what it is like to want and need home Internet service but to be without means due to low salaries. Teacher 6 brought the issue in this way:

I say to myself if I had the means necessary to have the Internet in my house, I'd get it. Because here it is very expensive. It's very expensive. For example, it cost on the average of-The last time that I asked they told me that it's a little cheaper

now but it's like 300 or 400 quetzals, monthly... with the equipment, I believe that with a down payment of one thousand quetzals for one-for the Internet- Hmm- because I was- I was studying and since I can't pay- If I had it, then I'd work more hours at night.

Teacher 18 revealed that her hourly pay, while hired on a non-salary basis to work in a remote town, was so low as to force her to quit, making any type of activity on the Internet, aside from free usage, an impossible proposal. She stated that her pay scale was "random" and represented 300 quetzales (\$40.00) monthly, leaving her after the expenses for bus fare, without even basic resources, so she "taught and the parents gave [things]... there." Even teacher 15, an established in-town teacher, expressed her concerns of funds so limited as to prohibit paying for even hourly usage: "I can't pay for the Internet [café] here. It's 10 quetzals (\$1.70) per hour. Both make known the dysfunctional connection between pay scale and capital for investment in personal professional development via the Internet. Teacher 15 summed up the need for such a proposition to collaborate in the resolution of these issues:

Indeed, I see that many members [online teacher participants] that are here, especially in regards to the Internet, because they have more time... Think about that I work in the morning and I work into the late afternoon. This curtails my time. And, in contrast, I have seen many teachers who finish in the morning going to the Internet in the late afternoon. [Those who] work in the late afternoon go to the Internet in the morning... Too bad I'm not the same as them. I don't have much time.

These ruminations point up the essentiality of a dialogue between interested and responsible entities to coordinate pay scales, time required at work, and proximity of Internet services with an established online curriculum leading to improved pay and teacher academic status, so that all teachers in towns, settlements and remote villages of the region may benefit from equal opportunities for professional advancement with the

Internet as a prime tool in the process. These entities represent a fusion of local bridging social capital sources and external, linking social capital.

Others tell me that a woman shouldn't have professional goals. In two cases, teachers shared stories featuring a unique social capital barrier in the form of the influence of close relatives, namely parents and male siblings, to educational advancement and professional development. Both teachers were female, and both reported that home duties, such as cooking and cleaning were assigned to them, leaving them no time after their teaching day to pursue online learning opportunities as were made available through the Pavarotti school's CTC. Instead, they listened to obey the requests or requirements of these family members and stayed at home to maintain the expected order. Teacher 5 broke into tears as she described this role, which kept her subservient in the home until age 36, when she was offered a grant to study English in the US for six months. Subsequently, she returned and began school teaching, eventually enrolling in a national university, where she is currently pursuing a licenciatura, or bachelor's degree. Her mother expected her to fulfill this role:

First and foremost, I dreamed as a child of becoming a teacher, but my father died when I was twelve. And, my mama said, "You are staying in the kitchen. Your brothers must be attended to." And, I had to obey my mama, but over time my brothers grew up and I said to my mama, "Mama, I didn't study, but my brothers indeed studied," because I wanted to work too. And I achieved it when finally the last one graduated.

Teacher 5's educational plans, which include online learning, have been ridiculed by her siblings. Similar commitments were assigned to teacher 16, whose brothers expected her to come home immediately after the work day to attend to cooking, cleaning and guarding the home against intruders. She shared, "Every day of the week, mornings and

afternoons, I am occupied, since my brothers were studying, [and] I stayed there in charge of the house, so I couldn't go anywhere." It is apparent that if unmarried women such as these seek educational progress after regular working hours, that they will have to exercise extraordinary will in communicating and reinforcing their plans against the wishes of immediate family expectations. Curious in its nature, this expectation constitutes a barrier to Internet usage for professional development, in the form of a negative norm expressed through a bonding social capital network. This norm also precludes opportunities for trial and observation of teachers using online resources for professional developing, as connected to Rogers's attributes of trialability and observability.

Findings from the PGI for Research Question 2

The five participant teams highlighted the importance of the preceding representative statements in their analysis of the nature and motivations of their professional goals, but fell short of relating these goals to the needs or expectations of students at specific grade levels, coherent with the lack of response to that same end within the actual interviews from which the representative statements were composed. By collaborating intensely with other community educators, the small group teams interpreted the representative teacher statements with the express purpose of deriving findings which could be used to enhance the online learning experiences of all community teachers. While they shared this common objective, each of the teams' findings contributed persuasive perspectives about the nature of the problems facing the

teachers and about the interrelationship of social and personal factors as they impact decisions about adopting the Internet for this purpose.

Group 1 encouraged the development of “high self-esteem,” citing the lack of courage of many women to set goals beyond their current professional levels. They inferred the role that society plays in levying burdensome expectations upon women. These expectations included the care and protection of the home. These women reported that they were expected to cede to the expectations of parents and male siblings, who might be fully unaware of the requirements placed upon teachers for professional development and the value of the Internet in fulfilling those requirements. They acknowledged the untapped advantages of the Internet and the need of all teachers to “organize...as professionals... to be an example” to students for whom they function as role models, and to teachers to encourage engagement of the Internet.

Group 2 cited goals of “learn[ing] the English language and computers” as essential facets of their professional development. They indicated that, particularly in outlying, remote sectors of the region, the need could not be greater to provide students, many of whom are indifferent to school, a motive for learning, and tools for an advantage in future educational and professional pursuits. Knowing that the vast majority of the students in remote sectors of the region will be relegated to low-paying manual labor in the coffee fields or in other nearby agriculture, Group 2’s presenter recommended finding a way to bring the Internet and computers to teachers who with regular study can change lives through the teaching of English.

Group 3 acknowledged the need for “willpower [in] organizing time to be able to better [ones]self.” The presenters determined time management as a key challenge and recommended that workshops be organized to motivate teachers about Internet usage and how to organize their time to take advantage of online resources. They described the Pavarotti school’s CTC as an ideal location and thank the local IT technician for his training and support. The IT technician was asked to stand to receive thanks from the group and was acknowledged for his pivotal role in preparing teachers to use the Internet. However, they also cited “age, gender, religion or differences in ethnicity” as potential obstacles from the community against their Internet usage.

Group 4 suggested solutions to barriers in meeting goals, correlating with comments of other groups. These included “promoting the participation of women through educational workshops” to dissolve social norms which thwart their activities. They also recommended to “establish an agreement with educational authorities and owners of Internet cafes for a special discount” which would thereby extend access to the free online coursework in more locations throughout town. With regards to issues of family prohibitions of online learning activities outside the immediate work and home settings, it would be necessary to “convince the family of the importance of the Internet” but the group did not explain how that would be accomplished.

Group 5 presented numerous messages for motivating self-sufficiency in setting and achieving professional goals. Group 5 concurred with the preceding presentations about the importance of creating additional supports to Internet access such as forming agreements with other Internet-ready computer labs, but stopped short of explaining how

this would be done and promoted the concept that each individual teacher should reorganize their life priorities to meet the challenge of online learning. The group enjoined: “When there is willpower, money is not a limiting factor.” Expressions of concerns or priorities which might be attributed to the group were withheld.

Findings from the Teacher Interviews for Research Question 3

Teacher interview data which addressed research question 3 was grouped into response sets which formed the basis for the representative teacher statements quoted in this section. The representative teacher statements listed in this section were cited in the small group presentations in the PGI, during which findings were presented relative to the teacher interviews. The third class of findings generated by the PGI teams fell under the category of Social Influences upon Internet Usage, which ties to research question 3: What forms of social capital levied the most influence for improving the Internet usage of these teachers for professional development? Representative statements, interview quotes, team findings and the researchers’ comments upon those findings are as follows:

The technician gives me personalized attention. Teacher 2 acknowledged that before the onsite and online professional development training featured in this study, that she “ignored the Internet.” Although she acknowledged her first contacts with the Internet as “a bit difficult,” she affirmed that the teacher in the Pavarotti school’s CTC had helped her. Many other teachers cited that same teacher as a pivotal character in their learning to adjust to Internet usage. Teacher 7 described him in detail:

[His] classes are always very friendly, the machines always operate very well. [The IT teacher] tells us which machines he will use. “You can use this” or if (one) has a problem (he is) to whom I ask help. Eh, you should note that he is a

very available person-always very available. I don't have anything bad to say. He is always a very service-oriented person,

Teacher 4 agreed, and added that of whom she “almost always ask[s] for a little help is of the teachers who are here in the school and of the director who always is always watchful to guide everyone-always.” Teacher 4 made a clear reference to the utility of collaboration between groups of associates and local experts to learn and acquire new Internet skills. Her working companions, as sources of bonding social capital, and the school director, like the IT teacher, were representatives of bridging social capital.

I arrange my schedule to attend with a group. Many of the teachers expressed reticence about attending the CTC alone to use the Internet. While some cited the danger of being out of their houses close to dusk, others referred to a level of comfort experienced by learning about and using the Internet in the company of others. Teacher 6 stated, “at times I go upstairs with my (work) companions, but, at times, when I come in the afternoons, my son comes along with me and the children's web pages attract him.” Some see attending the CTC with associates as a positive option, while others demonstrate unwillingness to attend the CTC or a local Internet café on their own. Teacher 16 stated, “Well, I go to a bookstore [Internet café] in San Lucas Toliman, and the boy indeed operates the computer very well, and there I gain courage and I have to go with people because alone-alone I can't.” Taken out of context this statement would be difficult to decipher. When considered in light of comments that experiences with the Internet have been confusing, and that any slight action could damage it, may underlie the impetus toward group versus individual attendance. Those who choose to attend a CTC or Internet café in a group employ the positive elements of bonding social capital in

sharing norms of value for learning about and using online learning for professional development.

The Internet is not part of my life and commitments. Numerous teachers made comments akin to the concept that there is no real perceived advantage of using the Internet for professional development. Perhaps due to the longevity of service or the proximity of retirement, some teachers just do not view the Internet as a necessary tool for work and refuse its entrance to their already-occupied roster of personal and professional commitments. Teacher 14 divulges,

For me it's a little uncomfortable to get over there [to the CTC]. I am going to be honest and sincere again. I have only gone onto the Internet from the capitol because I have three sisters there and one of my sisters-She installed the Internet, (but) the truth is I just don't have the knowledge to get into it.

Teacher 15 excused the negligence of the Internet café saying, “really what lacks is time-time because if... I am going to pay for an hour, I am going to make good use of an hour, but at times I need that hour for another activity.” It is unclear if the perceptions aired by these teachers matched up clearly with a perceived attribute, but if they did, the most closely aligned would be relative advantage, or more clearly, the lack of perception of any advantage to spending time and energy on engaging the Internet for professional development.

I don't understand when they explain things to me. Comments by a number of teachers, including those cited here, bespoke the need for implementation of workshops to orient teachers to computer and Internet usage. While a complete overview of both computers and the Internet would be ideal, the most necessary stages of training would be how to use a computer keyboard, log on the Internet and toggle between web pages.

Many teachers asked for or referred to training as a positive option and need. Teacher 1 made known a level of knowledge with the computer, corresponded with Internet usage, then stated:

I'd like-What would it be? That they give us some training. Yes-I'd like to know everything about the Internet-everything, really. The truth indeed for me is that computers have-been a pleasure for me. Computers have really helped me. But, slowly but surely, as we say in Guatemala. I have learned many things half way. Yes, and I have learned to operate it. Yes, but if I could have the computer there [in my home]-I'll do whatever it takes.

Teacher 1 stressed his interest in finding an opportunity to have home computer and Internet usage. He, like many teachers, reported having not enough time, proximity or resources to venture beyond the home after completion of long, two-shift workdays. His expression of desire for help to have a home computer is not to be equated with indolence, but in the real need for the establishment of these services in the only place he could safely work after dark.

Another teacher, number 11, with 26 years in teaching, described the acquisition of Internet and computer skills as an exercise in futility. Speaking on behalf of teachers offered free Internet usage at her school, she reasoned,

Hmm. It has been quite difficult, because we [teachers] don't have a lot of knowledge about computers. We don't have much time on the computer. One has to know Word, [Power] Point, Excel and a lot of other things. He [the IT technician at the Pavarotti school CTC] taught us, but it was worthless for us because we don't know about the Internet. He did us the favor but we don't know how to do it, because we don't know about the Internet. He did us the favor but we don't know about it.

This teacher has tied together attribution issues of complexity and compatibility with trialability and observability, describing a cycle of avoidance based on discomfort (compatibility) with the Internet because of confusion (complexity), lack of previous

experience (trialability) and shared uneasiness leading to lack of role models among them for effective Internet practices (observability). Although the relative advantage of the Internet was cited at one point earlier in the interview, teacher 1 cited the above syndrome as the primary deterrent to adoption. The IT technician, who played a role as a social capital bridging agent or expert, did not allay the norms of fear and resistance held within a tight-knit bonding social capital network of teachers at the school, perhaps not aware of the depth of their concerns.

Although teacher 11's experience was based on perceptions of personal or group ineptness, others attributed their non-adoption to inadequate assistance, sharing the perception of complexity voiced by teacher 15 who stated, "I get discouraged because it's tough-it's tough." The need for assistance was tied to issues related to stabilizing the published schedules for free usage at the Pavarotti CTC.

The schedules of the telecenter (CTC) change without notifying me. One way noted by teachers to enhance participation in the online coursework was to stabilize the published schedule days and hours of availability in the Pavarotti school's CTC. Teacher 17 described technical difficulties which impeded usage of the computers on scheduled days:

Well, I came a few times, but the Internet, it's like it failed on me a little more (here), so I decided to use it in the Internet café. [P]erhaps one challenge that has-or, I don't know, in the Internet cafes if it opens my (inaudible)-my email. And... all that (the professor) had sent to me. The other time I came [to the CTC], I had permission for a Saturday and (when) we went up with another companion, [the IT technician] he told me that he was in another version-I don't know what-Hotmail, so Hotmail didn't open... so, now also I haven't been coming here lately. I don't know. It would have been a few months now. I haven't even come down here any more.

This statement heightened awareness of how perceptions of complexity of the Internet, shared perhaps by the IT staff, affected performance of related computer technology on scheduled days. Teachers, although recognizing how technical issues can interfere with usage, are disappointed about traveling, such as the case with teacher 17, perhaps an hour or more, to discover that services are not available.

Apparently, after the schedules were agreed upon with local administrators of the school, the schedules were reduced, related teacher 2, to: “once a week...[some were told] two times a week, [but] they told us over there, they told us once a week. [First] they told us Monday or Friday, however [later] they told us Monday.” Teacher 15 stated her experience with greater detail:

Well, I haven't gone to the Pavarotti. We went twice Mrs. [teacher name] and I, but, eh-once they were in a meeting and another time they were in I don't know what activity, so I couldn't go any more, and [teacher name] continued going and she told me, 'Just as well you didn't go because-because it didn't-it didn't work out' and specifically when she went, well the [IT technician] was busy and he couldn't [help] either, so I only went twice and then I couldn't so that was it.

Teacher 10 attributed her decision to drop out halfway through the course to a

lack of service, we could say like that, because when one get's there, [and] asks what computer should be used and he says, 'There aren't any-any machines-they're busy. Come later.' One goes another day-It's the same-they're busy.

These comments, taken in tandem with the above statements of other teachers, may lead to the conclusion that technical difficulties, schedule changes for meetings, and usage of all available computers by students and staff place limits on the fulfillment of the offer to a group of teachers to participate in free usage of the CTC services.

Findings from the PGI for Research Question 3

The five participant teams highlighted the importance of the preceding representative statements in their analysis of the social influences upon teacher Internet usage, underlining the need for enhancement of supports and diminishment of barriers to that end. In the ensuing convocation of opinions and attitudes about teacher interaction with the Internet, its challenges, and its opportunities, the area's teachers were able to come together in a highly productive dialogue which allowed and supported cooperative thinking and planning for how to enhance free opportunities for learning online. In the process, each team generated findings which represented some common attitudes, however also resulted in the description of challenges in ways which could promote positive action.

Group 1 indicated commitment of women teachers to established family roles, notably "to be better each day" including to be "'subjects' [agents] of change" in using the Internet and not just "decorative objects... [or] servants." A presenter talked about the importance of family and maintaining one's cultural values amid the rush towards integrating with the world through technology. She dismissed the notion that women must only serve, and advanced the notion that women must lead also. Women must encourage other teachers in the role of agents of change and opinion leaders to engage teachers in utilizing the Internet to further their professional development. They noted the lack of current low or no-cost opportunities for online learning and wanted to obtain them.

This brought to light two important factors about social (capital) influences, first the commitment to the enhancement of established bonding social capital norms in family networks, which will in most cases supercede or counterweigh interests of married women for their professional development. Second, the need for advocacy and support among teachers by teachers is pervasive.

Group 2 indicated a concern about equal access to learning about the Internet in “opportunities [which] should be equitable... not accounting for ages.” Many of Group 2’s members were established teachers, some nearing retirement age. Their concerns about equal access were synonymous with concerns about rejection due to their self-perceived slowness in adapting to technology. They expressed worries that they might slow others down if going to a group training and wanted to explore more on their own with an IT professional on call if needed. Another team member from group 2 clarified that this was a request and not a demand but hoped that with time all would learn.

Group 3 cited the need for decisiveness and “good communication with the family” as essential for taking time from family duties for self-betterment and success. A presenter shared the doubt that all families would support a parent, particularly, a mother in abandoning the home to work on the Internet. There was some discussion between team members who finally agreed that some women might need to educate their families on why they should all utilize the Internet, and recommended specialized materials to train families. Group 3 presented the need for the Centro Educativo Pavarotti to “establish a schedule... [and] observe it.” They suggested that some teachers had become discouraged after being turned away.

Group 4 cited key supports as the guidance of the [online] course teacher and preparation courses to prepare to study online. Group 4 prioritized, as barriers, family expectations such as “My family says that my job is to take care of them.” The presenter explained that the family setting was the priority of area women, including unmarried women, and that partly out of caution, women were encouraged to not be too independent in traveling alone. Like others, group 4 encouraged action to “convince the family of the importance of the Internet.” Group 4 also requested that the Pavarotti school “set [up] an adequate schedule” referring to a variety of fixed, inalterable days and times for teachers to come and use the Internet.

Group 5 highlighted the importance of taking a “course to become an expert” on Internet usage. They acknowledged the value of Internet literacy, and stated that more teachers should take advantage of online resources for furthering their own education, not just for helping the students. Group 5 encouraged attending with a group, “because a group motivates itself and more is learned,” and to “take maximum advantage” of assistance from IT experts. Group 5 attributed family discouragement of female professional development to ignorance of parents or male relatives seeking support, and to low-self esteem of the females. They encouraged the females to reevaluate and to consider spending more time with the Internet.

Reassignment of Research Question 4

Research question 4 addresses the culminating issue of how understanding of social capital influences upon Internet usage could be applied to improving participation in online professional development of San Lucas areas teachers, and also asks to what

other settings this new knowledge might be applied. Both questions were answered clearly through the processes of the PGI, however, were rendered in a context which diverged from the original intentions outlined in the meeting's agenda. Although the agenda represented the will of the FRMT education director, the PGI meeting leader, the PGI participants abdicated their assigned function to synthesize the findings tied to the first three research questions. That synthesis was designated to produce answers to research question 4 in the form of an action plan for community improving participation in online teacher professional development in San Lucas. Instead, the group sent advocates from among them, to plan for an alternative method of summarizing the findings and outlining the next steps to the process.

Five team representatives approached the meeting's leader, the education coordinator of the FRMT, asking him to substitute himself for the role he assigned the teams to summarize the findings. Instead, in requesting him to summarize for them, research question 4 became the focal point for choosing the action steps that the FRMT, in coordination with the educational community, would take to remediate the perceived challenges of teachers to engage the Internet for online learning and professional development. Consequently, the meeting proceeded with a conclusion phase in which Sr. Cifuentes lamented the challenges which have beset the region for many years of low motivation and lowered expectations for success. He began his summary with a message of encouragement to the community, reminding them that the FRMT was ready and able to support and sustain them in acquiring new practices related to using the Internet which could produce positive benefits in their lives and in the education of their students.

Subsequently, he laid out a plan of action which, with the agreement of the group, incorporated their findings with his insights to address research question 4: How could understanding of social capital influences upon Internet usage be applied to improve participation in online professional development for teachers of San Lucas Toliman, and to what other settings might this understanding be meaningfully applied? This question represented the culmination of the previous three research questions and was designed to promote the generation of solutions, in the PGI, for enhancing engagement of the area's teachers in professional development activities online. Consequently, the findings for research question 4 were delivered in the form of a series of propositions to that end. In each case, the proposition was linked to the employment of social capital influences in bonding, bridging or linking networks or a combination thereof. The descriptions of those proposals follow herein.

A proposal was made to employ bonding social capital by providing an open invitation to teachers to enroll in upcoming free online coursework to begin September 1, 2008 with an offer of assistance for learning about Internet usage with teachers who had completed most or all of the previous year's coursework online. This strategy would encourage opinion leaders and change agents to share their knowledge of the Internet and online coursework with less proactive, but interested peers. It addressed the request of the community for training assistance on how to use the Internet. This proposal was enhanced by the proposition to employ the linking social capital resource of university students visiting from the Balearic Islands as FRMT interns as volunteer assistants to teachers for orientation to using the Internet.

A proposal was set forth to provide, in place of a 26-week course such as was implemented the previous season, a shortened course from September through November of 2008. In addition, they would prepare a university-approved course in conference with the researcher (linking social capital), the local Ministry of Education (bridging social capital) and himself, as FRMT representative (linking social capital). This course would be accredited by the University of San Carlos. This proposal recognized the need of teachers to increase their salary opportunities as an incentive. A proposal was made to employ bonding social capital by encouraging local dialogue about the values of online programs offered under the auspices of the FRMT and the support for these programs proffered by the local representative of the Ministry of Education.

A proposal was made to employ bridging social capital to enhance schedules and coordinate with other local educational computer labs to increase times and reduce distances and costs for accessing free Internet usage. This involved planning to gather on a date within a month after this meeting with interested teachers (bonding social capital), the Pavarotti school's IT technician and key administrator (bridging social capital), local Ministry of Education leader (bridging social capital), together with the FRMT education coordinator (linking social capital), to review scheduling needs and make any and all needed adjustments to the schedule for free usage of the Internet by teachers involved in the online professional development project. This strategy represents the synergistic application of all three types of social capital to resolve one of the study's key identified challenges.

A proposal was promoted to commit to employ linking social capital to increase collaboration with organizations and individuals outside of San Lucas to generate improvements in funding and involvement with presently-considered and potential future online courses and sites for teacher development. This commitment included the suggestion to involve the researcher, as volunteer, to assist in the spread of online professional development engagement practices, in collaboration with the foundation to other rural towns of Western Guatemala, where the FRMT is promoting teacher development. This same collaboration would result in the development of an online journal in English and Spanish to share best practices for K-12 education and to promote preparation for higher education of indigenous and rural Guatemalans.

The meeting leader's propositions effectively resolved some main points of the group's findings including their role to share this support and guidance with students, which motivates their continuance in a low-paid profession. His proposals also validated their perceptions of the importance of mutual support combined with personal initiative to excel in the face of personal, cultural and societal barriers. The proposals described by the meeting leader incorporated seasoned or highly Internet-active teachers in a role to share their support and guidance with other teachers, to motivate their continuance in a low-paid profession. The proposals were concomitant with their perceptions of the need for present and ongoing technical guidance, and improvements in proximity of location and improvements in schedule availability. Lastly, the meeting leader's proposal incorporated the group's recognition of the value of the ongoing support offered online and in person by individuals from outside the context of the town and region, including

FRMT teachers in others towns and the course professor. He suggested the potential for extending online coursework opportunities to other Guatemalan regions. In all, the meeting leader's presentation of proposals for action effectively incorporated most of the groups' findings, to answer research question 4 in a way that provided community-driven resolutions to the problem of this study.

Evaluation of the PGI Meeting

Findings of the PGI corroborated the notion that a combination of bridging and bonding social capital is seen by a rural community as essential for enhancement of Internet engagement and performance by teachers (Dudwick et al., 2006). It reinforced a concept of linking social capital as a catalyst, transmitted via the Internet as conduit, for the diffusion of innovative practices for engagement of the Internet for professional development (Van Bavel et al., 2007). Each of the four research questions was answered with clarity through the small group activities and team presentations, leading to a conclusion and action plan presented by the meeting leader. In the process of summarizing the group's findings, however, the meeting leader left out women's issues, such as family prohibitions to professional development, and the continued pressing problem of salary level versus buying power for personal or at least, locally-accessed, Internet services for teachers unable to make the trek to the Pavarotti school's telecenter.

Team presentations highlighted teacher dedication to social change and progress of their students at all grade levels. What teachers did not seem to recognize, in general, is that in making the sacrifice to get a higher education, then persisting in that vision, that resources could be made available to smooth their path. Many entities and organizations

could be contacted, who would be more than willing to support struggling teachers with limited resources seeking to make progress for their community's students. These entities could effectively narrow the effects of the digital divide in San Lucas Toliman by supporting, in specific ways highlighted by the community, the online professional development of teachers. As mirrored in prior research (Chang, 2004), it seemed that the most comfortable and meaningful use of online learning for teachers was the combination of online and onsite university learning. This effective combination of learning modes represented an opportunity coming of age in the region, as exemplified by seven of the twenty teachers involved in some fashion in long-distance or satellite campus studies. The teachers were either studying on weekends in University of San Carlos, a national university four hours away in the capitol, Guatemala City or participating in coursework at a satellite campus in Solola, a nearby town.

The permanent-group meeting held July 1, 2008 was the first of its kind ever in the region (Sapon, 2008), in that it brought together classroom teachers with educational administrators to talk openly about educational problems and solutions. The satisfaction with meeting processes expressed by the participants in spontaneous testimonials offered during the culminating dinner earmarks the importance of following up with more meetings of its kind. It showed the potential for motivating action and hope for progress among the rural educators of a region of Guatemala which bore civil strife for almost half a century. This conflict effectively ended upon the naming of Rigoberta Menchú to the Nobel Peace Prize in 1992, two years after which a formal peace national peace treaty was signed. Now, free of conflict, and open for social change, the FRMT, in

collaboration with intergovernmental, non-profit and social service organizations, has the distinctive opportunity to not only build real world skills through online teacher professional development, but to preserve and promote the dynamics of Mayan indigenous culture to be codified in uniquely planned and implemented coursework and processes oriented to the specific needs, preferences and challenges of the communities to be served.

For this reason, the PRA methodology was embraced as the approach to this study, giving responsibility for interpretation of research and generation of findings to the community, thereby fomenting their ownership of solutions devised by them to resolve a problem of Internet neglect as identified by local leaders. This is a unique combination of ideal methodological approaches with a pressing educational problem. The findings promise meaningful solutions that can be adopted and diffused effectively by and within the communities which could most benefit. These findings not only respect but validate local culture, languages, and perceptual frameworks. In a setting such as this, it is genuinely the researcher's role to supply resources, to facilitate processes and to respectively interpret findings with the same tone and intent as they were expressed in the community.

The triangulation of results was primarily carried out during the implementation of the PGI. In the PGI, five small group teams of community educators were assigned to prioritize and interpret the representative teacher statements, formed from the interview data. In the process, the groups came to similar conclusions, but also brought out divergent issues. These issues have been carefully described in preceding paragraphs in

which they were supported by original teacher interview citations. The researcher served a secondary role for triangulating results in his role as facilitator, utilizing prior research to contextualize and broaden the potential future application of findings. Because his analysis enriched not defined the findings, it follows in section 5 and is designed to elucidate, not question the meaning of the permanent group's findings.

This study has contributed new knowledge to an already growing discussion and polemic about how to apply social capital for the diffusion of the Internet in this sector of the developing world. This is a new study, with apparently no predecessors as reference points, yet the PRA's nature signifies that each new region of Guatemala or of any other developing nation to be studied, will produce its own findings leading to community-determined plans of actions. The purposes for its implementation are capacity building of communities and the development of sustainable innovations in ICT to support online teacher professional development. In section 5, the researcher undertook to comment upon all facets of the process of reaching the study's findings to answer the four research questions.

Evidence of Quality

It is essential to recognize how standards of quality were implemented and reinforced throughout the elicitation of interviews, review of responses, preparation of representative statements, delegation of meeting activities, and generation of findings. All interviews were digitally recorded and permanently stored on a USB drive, commonly known as a flash drive, sealed in a marked envelope, and stored in a locked filing cabinet. A native speaker of Mayan descent was employed to reconstruct the interview questions

into shorter statements which retained all elements of the approved questions. The same individual conducted the interviews, dictated them for transcription, and collaborated with the researcher to collect them into sets to form the representative statements used for analyzing the content of teacher interviews in the PGI. A locally-respected indigenous leader determined and implemented the meeting plan, and made culturally-appropriate modifications according to the input of participants.

Development of a plan of action which addressed the research question 4 complied with the purposes of the meeting and resolved the key problem of the study from the community's perspective with their tacit commitment, as designed by the methodology chosen for the project. The researcher adhered to his role as facilitator, never intervening and careful to support processes which at times were perplexing or contrary to his Western values, but which clearly satisfied and empowered the community as decision makers for enhancing an innovative process needed for their area's teachers. Use of the PRA methodology requires the researcher and the readers of this study to consider evidences of quality not by Western standards of precision, but by the degree to which the participating community of educational practice became involved and committed to the research process, resulting in the derivation of findings which would lead them to specific actions for resolution of a problem generated and defined from within its rural educational community.

The verity of the findings is supported by the appendices, which contain complete reproductions of key meeting materials and written group findings in Spanish with English translation, and exhibit a sample 85 pages of six coded Spanish-language

interviews out of twenty, with complete English language translations rendered by the researcher (certified A-level Spanish, University of Southern California and 8+ native-level fluency per the State of Texas TOPT). Rendering of colloquialisms and alternate vocabulary are included that were translated under the guidance of a native Spanish speaker to preserve the intent of grammar and vocabulary that was expressed by indigenous Mayan teachers for whom Spanish is not their first, but their second or third language. These translations could be correctly rendered within the study's setting, as accents, unspoken transition words and word choices with unique regional meanings could be preserved using the PRA methodology.

Purpose and Placement of Triangulation of Findings

Within the framework of the study's methodology, triangulation was achieved through the group work which produced written findings in teams. These teams, composed of 6 to 7 participants each, self-checked and interchanged ideas before distilling their decisions and observations on poster paper for presentation to the assembled PGI participants. Most of the group participants were completely new to processes of small group decision making, and in the processes of prioritization, summary and interpretation of data. A challenge in the process of involving a community of educators was that groups chose to veer off from the meeting leader's stated purposes. Although each of the groups engaged in a different set of practices to derive findings, and some began concluding fairly quickly while some deliberated at length followed by a hurried conclusion, this diversity was a natural and necessary result of the variety of ages, genders, time in teaching and socioeconomic levels of the participants.

Chosen randomly, the groups produced a diversity of approaches and opinions. Each team self-triangulated, or checked and approved the priorities and comments to be displayed to the group. The diversity between teams assured independence, which despite such brought about remarkably similar areas of emphasis in the findings. The culminating findings stage relegated to the meeting leader set a third level of checks to the derivation of the findings. In the PRA, the researcher is not permitted to introduce or intervene with concepts or processes brought in from the literature. This role, as an extra level of triangulation of data, will appear in the researcher's conclusions in section 5, where it will be used to tie together seemingly disparate or unaddressed points of the study and make assertions about the future of this research,

One of the main gaps detected in the findings was identified generally in the rhetoric of more than one presentation team related to a lack of understanding or empathy or both for the real circumstances of many of the teachers for whom issues of time, resources, proximity to Internet resources and family or social influences represented real barriers to performance in online professional development. Many presentation teams, typified best by group 5, engaged in telling negligent or Internet inactive teachers to motivate themselves and supercede barriers rather than understanding their real, established needs for assistance and suggesting practical resolutions. It may be difficult for a town-dwelling established teacher to fathom the challenges of a village or settlement-dwelling first-time teacher who has less access to any kind of communication infrastructure, is paid less, must take more steps, and pay more to be transported to an Internet-ready site. Cybersegregation, as coined by Gates (Attewell, 2001) can symbolize

stratification within remote, rural settings, and not only be applied for comparisons between large cities and rural towns. There is always someone, including some teacher, whose resources are less and barriers are greater.

Almost a month after the initial PGI a follow-up meeting was held by the meeting leader in the same San Lucas Toliman location. This is a very positive indicator for the power and effectiveness of the use of the PRA to develop the study. The PRA's benefits include promotion of local commitment to change by developing processes of research and decision making within the culture and capacity of those who expect resolution of a given problem. The study was designed in full agreement of both the education coordinator and the executive director of the FRMT. At the behest of the FRMT education coordinator, the teacher interviews were followed by the seeking of the input and creativity of educators in a meeting with open invitation where findings, including a culminating plan of action, were rendered under his direction. As a consequence of using PRA methods, he, his staff, and the community's teachers became motivated for social change. As a step in the process of diffusion (Rogers, 2003) and a positive sign of effective implementation of the PRA to foment community-driven developmental practices, the meeting was held on August 26, 2008 to further resolve points identified in the PGI and make specific decisions with determined assignments for action designed to lead to enhanced engagement online, of the teachers. For documentation, the meeting minutes, sent to the researcher via email, are found in Appendix B, in the original Spanish, only.

This study was designed to promote enhancements to practices for engagement of teachers in online learning through the identification by educators of a rural community of social (capital) influences which could be applied to that end. A follow-up usage of the community's findings can be the presentation of the study's problems and solutions to potential benefactors to enjoin collaboration and funding to the benefit of the community featured in the study. Ignoring the circumstances of those teachers who are least active is tantamount to refusing the practical realities of the study's findings. Embracing those realities is key to developing needed and innovative solutions, conjointly with intergovernmental, governmental, private industry and non-profit partners, and a future goal for usage of this study. The researcher has undertaken to connect disparate, unanswered elements of the study under the modicum of prior research.

Five characteristics of prior research cited for this study fit the need for clarification of points touched on in interviews and the findings, including the polarization of resources, potential reasons for fear of technology, causes of inaction tied to concerns over assimilation, ICT sophistication and how norms within networks appear to be stratified within the interview sample. These characteristics can be further reviewed for assuring that all points of view within the sample have been adequately understood and addressed, but it is also clear that given the limited geographic range of the study, i.e. a small town with outlying villages and settlements, that prior research may not apply, at least at this stage of the community's ICT development. A full review and connection to research literature will round out the discussion of this study's contributions to new knowledge in section 5.

SECTION 5:

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Overview

This study was conducted to determine why most of the teachers in a rural Guatemalan community who had been offered free usage of the Internet to participate in online English teaching coursework failed to participate. Of the 34 teachers who attended face-to-face teacher training in San Lucas Toliman in 2007, sponsored by the Fundación Rigoberta Menchú Tum (FRMT) and the researcher, as volunteer teacher trainer and collaborator, only 19 elected to log onto the online course. A month into the free, 26-week online course, it became clear that only 11 were regular attenders, and of those, 6 dropped out midway through the course. This phenomenon generated a concern among the FRMT education staff and resulted in an agreement with the researcher to develop a study to identify the principle causes of low participation and to enhance completion rates in online coursework. This could help set a standard for development of future accredited online courses for the area's teachers, who are virtually cut off from higher education opportunities because of location, buying power and proximity and access to Internet infrastructure.

Online education in developing nations is a relatively unexplored subject. The potential for the application of diffusion research in the context of social capital had been postulated but remained unrealized. The researcher set out to design a study in a format that would utilize contemporarily-acknowledged theories applicable to framing understandings of social capital influences upon the diffusion of Internet technology in a

developing nation, Guatemala, within a methodology oriented to building the capacity of rural communities for self-determination. The researcher acted as a catalyst for development and implementation of the community-led research and served as a source of facilitative support in the process.

Past research identified the act of providing Internet infrastructure, including computer and communications hardware, as an incomplete measure for guaranteeing usage (Foth, 2003). This phenomenon was borne out in the low turnout data for the FRMT-sponsored online coursework offered free of charge by the researcher, as teacher trainer. To implement the research, change agents were used, including the research assistant, opinion leaders and the FRMT education director. These change agents collaborated to carry out the participatory rural appraisal (PRA) for interviews of 20 teachers who had or had not elected to register in the online coursework. Guided by the research assistant, a native Spanish-speaking interviewer, those teachers revealed influences, motivations, and resources about diffusion, social capital and teacher professional development. These three had never before been brought together in a context where the data could be used actively and decisively for developing findings to enhance participation in online teacher professional development.

These findings were generated by the community of educators who had participated in the interviews. The result was a synergistic agreement upon values and priorities for enhancing online teacher professional development activity which, although limited in scope to a small region of Guatemala, set a new standard for rural developing nation research about Information and Communications Technology (ICT). This study

established patterns of discussion about how to improve social supports for online teacher learning in rural sectors. This study bears the potential for improving processes of online teacher learning and accreditation by understanding the social capital influences, both negative and positive, which govern thoughts and actions of potential novice adopters. The many identified barriers were superceded by a few pioneer, early adopter, teachers who qualify as incipient change agents and opinion leaders, whose commitment and acquired ICT skills can be harnessed for enhancing the diffusion process in the community.

Within the framework of the PRA, the findings generated from group reflective practices in the permanent-group interview (PGI), were outlined in section 4. They fell under three central categories aligning to research questions 1, 2 and 3, with answers to research question 4 serving as the capstone question and the basis for the plan of action determined in the PGI meeting. The findings were consistent with previous research which demonstrated that enthusiasm for online activities and in receiving specialized introductory guidance (bridging social capital) in groups (bonding social capital) were high. Findings that were consistent, but new, to the literature regarded the barriers of salary level (linking social capital) and family time demands (bonding social capital). Findings were embedded in an action plan, highlighting the community's decision to engage a national university for development of online coursework leading to salary points and college credits.

Roots of the PGI findings on research question 1 through 4 were discovered in previous literature. Prior research had not addressed how social capital influences were

specifically affecting Internet adoption for any practice, including online learning of any group of individuals. Prior literature enhances understanding of the PGI findings, bringing into clear focus the context of those findings with their potential interrelationships to broader concepts for diffusion of online learning in developing nations.

Interpretation of Findings

Interest in Online Learning and Novice Guidance is High

Findings were consistent with previous research that demonstrated that enthusiasm for online activities and in receiving specialized introductory guidance (bridging social capital) in groups (bonding social capital) were high (Batane, 2004; Henning, 2003). Teachers acknowledged their interest in getting help to gain access to and to use the Internet for professional development. In the PGI, the community group agreed on the need to explore ways to heighten access to the Internet, by exploring agreements with local private schools hosting computer laboratories, by stabilizing the advertised hours of free Internet usage for project teachers, and by increasing attention to the concerns and challenges facing novice adopters. The group invoked self-discipline and commitment to make online learning a teacher priority. Findings from the PGI fortified the notion of the essentiality of combining bonding and bridging social capital influences to support adherence of novice technology adopters to the discipline of online learning. They brought out how increasing trialability of the Internet reduces fears and discomforts related to perceived Internet complexity, exhorting the improvement of guidance to first-time users. Rowe-Whyte et al. (2002) alluded to these same concepts. In

a study comparing student usage of technology through multiple years, Cheung (2002) gave evidence that concerns decrease as opportunities for usage of the Internet increase.

Teachers acknowledged their interest in getting help to gain access to and to use the Internet for professional development. That finding mirrored Rutherford et al. (2004) that difficulties in obtaining appropriate technology for connecting to the Internet required social supports (bridging social capital) to learn to utilize a scarce technology. In the PGI, the community group agreed on a finding of the need to explore ways to heighten access to the Internet, by exploring agreements with local private schools hosting computer laboratories, by stabilizing the advertised hours of free Internet usage for project teachers and by increasing attention to the concerns and challenges facing novice adopters. The PGI educators did not relate the representative statements to those concerns, to better construct plans of action to enhance online involvement, which needed to promote awareness of the relative advantage of online learning as shown by Rogers (2003). Such plans would be best implemented through local bonding social capital networks. These networks represent associations formed through family or local social organizational ties and are the primary medium for transmission and diffusion of a new norm such as assigning priority or urgency to the acquisition of Internet technology and skills needed for teacher online professional development.

One of the forces against adoption of the Internet, highlighted in comments of teacher 5 and teacher 13 was the imposition of home duties for females, the nature of which conflicted with time and travel commitments for using the Internet. In a larger sense however, all teachers regardless of gender were attuned to a societal expectation

(bonding and bridging social capital) of conformity to tradition in activities, sources of income and independence of action. This was discussed openly in Fazio (2007) in her references to social forces in rural Guatemalan society which made it “very difficult for them to engage in economic activities that are different from the typical activities developed by their family and communities, which leads to... reproduce the disadvantaged occupational patterns” (p. 1). Durston (2002) stated that the close, bounded relationships of Guatemala rural peoples tend to effect exclusion from the host culture. Parilla de Kokal (1999) indicated that resistance to change represented by new, socially-mobilizing influences can result in ridicule or ostracism of those who respond to those influences. These points provide further subtext to findings which described forces which impeded individual teacher action to obtain online professional development, or professional development of any kind, from entities outside the study’s setting.

The group invoked self-discipline and commitment to make online learning a teacher priority. Findings in the PGI fortified the notion of the essentiality of combining bonding and bridging social capital influences to support adherence of novice technology adopters to the discipline of online learning. Neither interviews nor the PGI findings were found to make mention of any collaborative effort to change the community’s consciousness of the need for online learning and for the realignment of priorities to support women as online learners. Although societal resistance to the changes of schedules, availability and use of resources represented by the Internet were given reference, it seems that not enough insight was provided about how to dissolve that resistance, which could manifest itself through acquiescence but lack of follow up to the

plan of action designated during the PGI. In the PGI, the community group agreed on a finding of the need to explore ways to heighten access to the Internet, by exploring agreements with local private schools hosting computer laboratories, by stabilizing the advertised hours of free Internet usage for project teachers and by increasing attention to the concerns and challenges facing novice adopters. Although groups in the PGI invoked self-discipline and personal rigor to take on the commitment of regular involvement in online teacher education, they did not suggest how the community entities identified as key to the process would be successfully engaged to support diffusion. Rogers (2003) had suggested that opinion leaders could play a significant role in the process of diffusion. He recommended that opinion leaders be identified and provided with positive information and experiences with the technology. He suggested that for them to function as change agents, they would need to be convinced of the relative advantage of the innovation and of its compatibility with established goals and values.

The PGI findings brought out how increasing trialability of the Internet reduces fears and discomforts related to perceived Internet complexity, exhorting the improvement of guidance to first-time users (Rogers, 2003). Those among the interviewed teachers who benefitted from proximity to Internet services and from the buying power necessary for utilizing paid Internet usage at an Internet café seemed to demonstrate more motivation and clearer objectives for learning online, but of those who expressed such motivations (teachers 3, 4, 5, and 6), three of four were participating also in weekend classes requiring travel either to Guatemala City or to another town where a university satellite campus was sponsoring classes. This points up assertions by Chang

(2004) and Batane (2004) that online learning is most effective when combined with face-to-face learning opportunities. This also reinforced the concept that individuals might possess or utilize different quantities or qualities of bonding and bridging social capital to produce unique outcomes within a community or social group.

Problems related to Rogers's (2003) perceived attribute of compatibility were also apparent in the PGI findings. The uncertainty about value of Internet usage incurred by its potential changes upon established patterns of time use and duty, had its origins in the needs to maintain family activity patterns and stability of income generated through working in multiple jobs. These needs were tied to values and beliefs of the teachers, and as seen through Rogers's empty vessels fallacy (p. 254) could represent as threatening established cultural practices. Not only could the Internet rob families of interaction time with teachers who contribute work or influence in the home, but the replacement of time for generating present income with activities for generating an uncertain future income could be perceived as contrary to personal or family values and beliefs.

Rogers (2003) pointed out the need for change agents to demonstrate how a technological innovation could intersect with and support culturally-accepted practices, providing a "mental bridge" (pp. 255-257) between the technology and the currently-accepted practice. At some point of implementation of the PGI's findings for a plan of action, the disparities of proximity to Internet services need to be addressed through seeking of funding for Internet-ready personal computers or laptops to make online learning possible in the home setting of the teachers. In line with Rogers's assertions, that without this or a similar measure, that the progress of adoption of Internet usage for

online teacher learning will lag (pp. 249, 255). Although research question 1 was clearly addressed in the PGI findings, the preceding qualifiers for improvement of capability can be of value for enhancing implementation of the action plan identified in the PGI to increase local online teacher participation.

Prior literature also provided more context for understanding how the PGI findings invoked increasing guidance to novice Internet adopters, a theme related to research question 3's referral to social influences upon usage of the Internet for online learning. Teachers sought out trusted relations to learn Internet basics, and that for some but not all of them, the ICT technician at the Pavarotti CTC represented one of these trusted relations. Conversely, not having access to a trusted relation was cited as a cause for inhibiting experimentation and quick acquisition of knowledge about how to study online. Roughly half of the 34 teachers invited to participate in online coursework never attempted to log on, and approximately a quarter of those who did log on actually completed all coursework. While connections to an associate able to guide the teacher on Internet basics were found to assist, many reporting these connections nevertheless did not engage or complete online tasks.

A point not clearly brought out in either interviews or findings and tied to research question 1, concerns about Internet usage, was nevertheless evident in interview comments that described apprehension about touching or utilizing computer hardware to access the Internet. These comments signify that in the case of these novice adopters, for whom even use of computers is an innovation, that concerns about Internet usage actually relate to usage of a technology cluster (Rogers, 2003, p. 249), which in this case was

indicated in interviews as the computer monitor, keyboard and printer. A general discomfort with any computer-related hardware can affect the rate at which the San Lucas Toliman teaching community could acquire skills for online learning. Although the Internet could provide a gateway for easing the transition to acquisition of Internet practices through contact with entities distant from the receiver (p. 215), this was not at all found to be the case in San Lucas Toliman, where the best way to support Internet adoption was found to be a combination of bonding (close-knit relationships) and bridging (access to ICT experts) influences in social networks (Woolcock & Narayan, 2000).

PGI findings tied to research question 3 which described the need for support of peers tied to support of experts were also underscored by prior research of Randolph and Krause (2002). Those researchers emphasized the important role students can play in providing mutual aid in learning how to utilize technology. They cited a “lack of knowledge about and discomfort with computers” as a precedent to the formation of negative attitudes leading to avoidance of the Internet. PGI findings suggested access to orientation about the Internet and acknowledged that the first exercise was to help teachers increase their level of comfort with their computer, the Internet, and the course website (Randolph & Krause, 2002). PGI findings also made new meaning of the prior research of Rowe-Whyte et al. (2002) about the potential reactions of novice adopters, including the holding of “negative attitudes that can undermine persistence and achievement” (p. 2). Likewise, their comments that “mere exposure to technology may not be enough to narrow the digital divide” (p.2) were fully supported in Foth (2003) who

asserted that provision of Internet technology in a community technology center would not in and of itself guarantee usage. This discussion of perceptions within social systems about innovations elucidated potential linkages with the influences of social capital as noted in research questions 1, 2 and 3, and enhanced the discussion of teacher interviews in the study's setting, explaining by example why they were responding positively or negatively to the proposition of online professional development.

Salary Levels and Family Expectations Can Impede Use of the Internet

Findings which were consistent, but new to the literature regarded the barriers of salary level (linking social capital) and family time demands (bonding social capital) against participation in online learning. An area of need not addressed in the concluding phases of the PGI but included in the initial interviews is described best as human impediments to Internet usage of teachers. The first barrier was the established salary levels of teachers, which, at the equivalent of \$1.40 hourly starting pay, impels teachers to work two or three shifts in any jobs available, robbing them of time for self-improvement. The second barrier was in the form of expectations for home confinement of women through expectations of family members, which may or may not be perceived by them as fair expectations. In the PGI, these issues were highlighted by citation of corollary representative statements. In group presentations, these factors were discussed as barriers to progress related to distance from the Internet and to gender, however were not referred to in summary findings presented for research question 4. Consequently, steps to ameliorate these issues were not considered in the plan of action which capped the meeting.

Improving professional teacher accreditation was acknowledged in interviews as essential for the maintenance of ongoing employment. This was also deemed of value for improving teacher salaries, as points accrue for participation in professional development and pay grades change through participation in higher education coursework.

Nevertheless some teachers reported personal and social factors which impeded their progress toward acquiring professional development above and beyond the minimum expectations of employers. Two teachers, numbers 1 and 5, epitomize these challenges. Teacher 1 could not take on professional development opportunities online due to an impacted work schedule of daily engagement in two, full-time jobs. Teacher 5 had been held back from higher education by family members, yet obtained the minimum standard required education level of grade 12 for employment as a teacher, then experienced ongoing family pressures to hold off higher education.

The experiences of these teachers reflect prior literature which describes the potential material and existential losses faced by any among the poor, including economically poor teachers, who might seek socioeconomic progress through education, including online education. Similar to Oxoby's description, teachers 1 and 5 saw online learning as unattainable due to price, distance to services, or competing commitments. Consequently, both teachers, although they acknowledged the value of online teacher professional development, decided to "change the characteristic (goal) they subjectively deem status worthy" (Oxoby, 2004, p. 728). Unable to make schedule changes required to attend classes online, their self-assessment was also affected, and as Pintrich (2002) described, this colored the value they placed upon achievement and its consequences, as

their beliefs about themselves affected diligence leading to accomplishments. In both cases, either by concerns about physical survival, as with teacher 1, or by reactions to ridicule of family members, as with teacher 5, their “judgments of their capability to perform a task [self efficacy], their goals for completing a task [learning or just getting a good grade], and the interest and value the task has for them” (p. 4) were negatively affected.

Over time, new educational learning processes such as online education will be aligned to new, elevated entry-level minimum educational standards for teachers. It is anticipated that for a new generation of teachers the use of the Internet will be more cost effective, and the technology can be experienced in the home or at greater proximity to the home if in a CTC or Internet café. The World Bank broadened the definition of linking social capital when considered in terms of assistance to take on innovations in rural communities, as including “relations and interactions between a community and its leaders and... wider relations between the village, the government, and the marketplace” (Dudwick et al., 2006, p. 18). Bonding social capital was characterized as “relationships... shaped by a variety of environmental factors, including the market, kinship, and friendship” (p. 18). The power of linking social capital, manifested in teacher pay levels and of bonding social capital, was shown by the supports or barriers presented in family expectations, for shaping individual teacher decisions about participating in online professional development.

Bonding social capital influences included teachers who acted in the role of change agents or catalysts within the activities of the PGI. Teachers who were observed

to take the lead in prioritizing and interpreting the interview data and those who manifested their team's findings to the whole group are two examples of the ways in which teachers functioned as a source of motivation for decision-making and change. The meeting leader, locally-respected but coming from outside the community, represented another form of change agent in that his opinion leadership was requested for taking over the final phase of deriving the findings for research question 4. His role as mouthpiece for the group was basic to synthesizing the findings of research questions 1 to 3 into a meaningful plan of action which would be implemented with the full support, and involvement, of the community's educators.

Rogers's observations about the role of change agents supported that in order to successfully implement the plan of action formed within the PGI, that change agents among the teachers will need to be involved in key ways. Teachers currently participating online and any newly enrolled teachers will base their decisions on the examples of any adopters of whom they become aware within the social system (Rogers, 2003, pp. 274-275) including the opinion leaders and change agents (p. 24). Knowing this, it would be a wise step to involve teacher opinion leaders and change agents for transmitting the norms of urgency and value as associated with the use of the Internet for online teacher learning, and to determine the best forums for communicating these norms to the educator community (Woolcock & Narayan, 2000). This concept also paralleled a key notion, promoted by Van Bavel et al. (2007), of the role of social capital as a catalyst within a social system, through the conduit of ICT.

Rogers (2003) argued that in order to accelerate the diffusion process, it was essential to “trac(e)... who interacts with whom and under what circumstances...” (p. 24). In line with this concept, it is evident that within the context of disseminating values of urgency about getting professional development online, that acknowledging the need alone is not sufficient. It is, instead, essential to construct a clear understanding of how teachers interact in groups, and who among them may be agents of change. The informal relationships among teachers which lead them to encourage one another to accompany them for a trip to the CTC to complete a lesson online may be more valuable than investment in a relatively expensive community relations campaign or numerous meetings on the subject. Examples of informal teacher relationships relative to use of the Internet for professional development in San Lucas Toliman might be represented as ties with teaching associates, friends who used the Internet at home or work, and close relations who could act as an expert or place them in contact with an expert.

Social Change Implications

The PGI meeting represented the intersection of two dynamic models for social change from within a rural, developing nation society. The PRA represented an approach modeled on tenets of capacity building for community self-determination and was the sole cause for choosing the PGI as the medium for generation of findings by community educators. Social capital, as norms expressed in social networks, was central to the discussion for enhancing diffusion of the adoption of the Internet for online teacher education. Knowledge of how teachers interact in and respond to social networks made evident the best practices for accelerating their participation in online learning. Some of

the teachers, identified as consistently participating in the free online coursework, represented catalysts for change in the practices of less participatory teachers who could benefit professionally and economically from online learning.

The plan of action identified in the PGI for enhancing participation in online learning will be implemented through the leadership of the FRMT with the collaboration of some of those same teachers, who attended a follow-up meeting for identifying a timeline of activities related to that plan (see Appendix B). The study has also already begun to contribute to a polemic about how to better provide free or discounted services to the area's teachers to facilitate their access to online educational resources. Due to intervening regular class sessions or meetings of students or staff within the Pavarotti community technology center (CTC), it remains an ongoing possibility that teacher participation online may be preempted for other uses of the CTC. A principal issue which remains unresolved is how to guarantee a stable schedule of hours for free Internet usage at the CTC.

Beyond the decisions for action rendered in the PGI which are outlined in section 4, and which will clearly provide a surer footing for developing and gaining participation in locally-designed online courses, this study has brought together concepts which have been talked about in literature but evidently never before implemented (Creed & Joynes, 2005; Lorenzetti, 2004; Trucano, 2005). By applying principles of social capital to study online learning for teachers in a rural developing nation setting, using methods which empower local educators to design, interpret and act upon research about problems they designate, this study represents a major new type of research in the field on online teacher

education for the developing world, narrowing the knowledge gap about why, as Foth (2003) and Menou et al. (2007) described, provision of Internet technology could not guarantee usage. By designating implementation of plans through the collaboration of change agents in established bonding social capital networks, this study's findings bear a powerful potential to effect real social change with measurable indicators of progress which can be reported in incipient stages now. This study effects social change by contributing to the narrowing of the digital divide for English teachers and all teachers in rural Guatemala.

Recommendations for Action

While the plan of action rendered in the PGI represents the practical findings of the study which can be implemented by the community educators, the community cannot stand alone in work to enhance participation in online professional development. Rutherford et al. (2004) agreed with Romo-Rodriguez (2005) that provision of Internet or other computer technology in a rural, developing nation setting could not rely on the buying power of the community, but instead would necessitate a collaboration between government, industry and the non-profit sector to subsidize the introduction of a technology which is valuable for the progress of society but economically out of reach of potential adopters. In the PGI, the group agreed on a finding of the need to explore ways to heighten access to the Internet, by exploring agreements with local private schools hosting computer laboratories, by stabilizing the advertised hours of free Internet usage for project teachers and by increasing attention to the concerns and challenges facing novice adopters. What the group did not address was the interest, expressed in the

representative teacher statements drawn from interviews, for situating personal computers or laptop computers and reduced-cost or no-cost Internet services in their home settings. Such a proposition could only be effectively addressed with the assistance and intervention of linking social capital sources, such as the FRMT staff and the researcher in concert with manufacturers or distributors of said technology. If such a collaboration is needed is a moot point, but the answer of how to bring it about constitutes a key issue for follow up upon publishing of this study.

A very practical decision rendered in the findings of the PGI meeting, and one which would provide an incentive for online participation, was the notion to form a collaborative agreement between the FRMT, the researcher as teacher trainer, the local Ministry of Education office (MINEDUC) and the University of San Carlos (USAC) for the design of a series of courses which could be offered online and translated to salary credits for teachers who successfully complete each course. This series of courses would result in the awarding of a certificate known as a *diplomado*, valid for a level of teacher certification recognized at the university level. In alignment with Rogers's notion of the intellectual steps toward adoption of an innovation, knowing that adoption of online learning could indeed increase earning power and job stability would encourage attitude formation for the innovation (2003). Formation of these courses, and making students aware of their availability and benefits would require an effective collaboration between local, national and international entities seeking the enhancement of participation of the teachers. The FRMT's plan to involve the community's teachers in the decision making and dissemination of knowledge about these upcoming courses is sound thinking, as it

supports Fazio's (2007) call for entities to "coordinate and cooperate with... social networks in the indigenous community... to build more bridging capital by exposing disadvantaged communities to models of strategies for development" (p. v).

The value of utilizing the PRA methodology for this study, and a process tied to that methodology, the PGI, meant that although the study was not designed to be scaled up to other settings, it very likely would be replicated. The study grew out of the incongruities between availability of free teacher coursework and Internet usage and the significantly low turnout of participants. Because the need to understand this paradox came out of discussions between local FRMT leadership and the researcher, interest in developing the study and in implementing its findings is high with the FRMT and the San Lucas Toliman teacher community. Accordingly, the FRMT expressed interest in extending the offer of free online learning to other rural Guatemalan communities. The question of how to multiply interest among the majority of teachers, who are not involved in online learning remained open to reflection.

Marshalling the involvement of engaged teachers as change agents is a likely solution. These change agents, who would embody knowledge of basic Internet usage and a commitment to online learning, could provide role models and some level of assistance to less confident associates. These lead teachers would fulfill a function similar to what was described by Batane (2004) for a group of teachers adopting the Internet in Botswana. In future face-to-face training sessions online, it could be a valuable measure to hold a session with those teachers to create a network of commitments for supporting the other enrolled teachers. Ideally the change agents would be offered a significant

incentive for their support of the other online teacher leaders. An incentive could be offered in the form of donated software and computer technology, such as a personal computer, laptop computer, IPOD or other item which is compatible with the Internet.

Having witnessed the pattern of activities needed to assess local problems through interviews and to convert that data to usable findings, the FRMT has added experience about how to develop strategies based on research strategies that build local capacity for change and which stimulate self-determination in decision making. This study has demonstrated how social networks support or deter online teacher education and lay the groundwork for employing members of those networks as catalysts for change. Additionally, because the study demonstrates the evidence for findings, in citing the real words of teachers and synthesizing their input through the lenses of social capital and diffusion research, it represents a source of totally new knowledge about the nature of social influences upon Internet usage in a remote region of Guatemala. This new knowledge can be cited in grant proposals to engender in kind and financial support for technology, materials and expenses related to the continuation of an initiative, by the FRMT and the researcher as teacher trainer, in coordination with MINEDUC and the USAC. Together these entities can collaborate to refit the San Lucas Toliman community's physical and social infrastructure for adoption and highly effective utilization of online learning for higher education of teachers and for enhancing teacher classroom instruction.

Recommendations for Further Study

A significant contribution to the understanding of social influences upon participation and learning of the San Lucas Toliman teachers is the knowledge that teachers indeed want to participate in free online coursework but that factors of distance, resources for transportation, double work shifts, family commitments, and unanticipated variations in schedules for usage of the CTC make teacher attendance at online classes a significant challenge. Although lack of attendance has in the past been attributed to laziness and lack of motivation, characteristics which were repeated in some PGI group presentations, perhaps the most significant new knowledge brought out by the study is that while enthusiasm for online teacher learning is real, the barriers to participation are pervasive. The elimination of these barriers is a project requiring mentorship to each impacted teacher. Pay increases for teachers could also significantly contribute to resolving these issues. This study needs to be read and considered by government entities who determine teacher schedules and compensation at the national level, and who assess and reward teacher performance locally. Empirical research could be undertaken to correlate pay levels with double work schedules, access to online services, and the opportunity for participating in higher education.

Henning's case study utilized principles of the PRA to identify parameters for course design improvements based on the priorities of learners in rural sectors of a developing nation. Findings paralleled a number of the statements made in the PGI with regard to: (a) similar perceptions of discomfort and distraction related to Internet usage based on inexperience with computers and other forms of ICT (2003, pp 6,7), (b) feelings

of helplessness and disorientation in relation to the instructor due to unfamiliarity with long-distance written interaction, (pp. 6, 7 and 9) and (c) differing manifestations of support-seeking including recommendations for a self-help training text, and an introductory training course (pp. 7, 8 and 9). Henning described the need for websites used in online coursework to symbolize a “virtual home and an identity” (p. 12) for the indigenous or rural learner, allowing them to construct a mental bridge to learning and achieving in ways which are potentially alien to their worldview. Another potential topic of future research could be the piloting of a variety of website designs for delivery of online teacher coursework with the purpose of identifying ideal course website design and function features. This type of study would necessitate the availability of a larger sample of teacher learners willing to engage online coursework in the area.

As described by Randolph and Krause (2002) the Internet is most generally used in metropolitan areas which can bear the communications infrastructure and readily supply technology at an accessible price due to mass distribution and the increased buying power generally found in large cities. It is therefore appropriate to assume that online higher education, although available in Latin America, might be limited in the main to the larger cities, to the exclusion of rural sectors with their limited infrastructure and lessened buying power. Issues of how to price and package online educational services in rural sectors could be explored in future studies of how to enhance online education for San Lucas Toliman teachers. These studies could in turn contribute to change in pricing and delivery of online educational services generally. A related study or second half of a composite study would be to determine how to develop a system of

scholarships to allay or replace the current costs for accessing US online education in Latin America, prohibitive to those with decreased buying power, and to explore availability and standards for enrollment of Spanish-language higher education online.

Reflections on the Researcher's Experience

The support and intervention of the research assistant, as a representative of the native language and culture, enabled effective reconstruction of the interview questions into a series of shorter semi-structured interview questions. It is because of this process, permitted through PRA ideology, that the teacher informants were able to respond with clarity and provide telling details of their Internet experiences. The native interviewer's willingness to accept for responses what the researcher would have considered in his worldview as incomplete or evasive, opened the way in a succession of additional statements from informants which provided needed, specific, and related details which only resulted from the cultural trust interchanged through the interview method. The researcher's learning through this experience corroborated Laungani's notions (2005) of the strikingly different worldviews which may be the perceptual basis for non-westerners and which could provide a source for resistance or inappropriate redirection by the researcher. The quality and depth of the interviews might have been significantly different had not the researcher maintained an objective distance from the interviewing process and was clearly enhanced through following the indications of the PRA for employment of a native interviewer.

For similar reasons, it was very appropriate for the researcher to withhold intervention in the processes which governed the implementation of the PGI. In that

meeting, as allowed by a locally-respected national education leader, small group decision-making processes were disparate between groups, but did result in a common method for presentation of findings. Alterations to the plan agreed upon with the meeting leader for group reflection upon findings generated by them for the first three research questions in order to derive findings for culminating research question 4, were initiated by community members, and the researcher declined to render judgement over the process, in deference to the standards of the group. The researcher was not pleased with the decision at the time, assuming that a lack of adherence to the agreed process would produce inferior or incomplete results in findings. However, the researcher soon recognized that the group's interest in sharing power with the meeting leader, epitomizing the values and objectives of the FRMT, was a guarantor of commitment to the plan of action resulting from findings derived out of his summary for the final research question, and represented, indeed, a culturally and socially-appropriate agreement which would enhance the implementation of decisions.

Lastly, the researcher initially was not pleased with the native interviewer's lengthy conversations with the teacher informants preceding the introduction of the interview questions. The researcher, locked into a Western worldview, thought of it as excessive courtesy and as a process which could be accomplished in a matter of minutes. After a few interviews were completed the researcher's perception of the introductory interchanges altered considerably, recognizing the trust-building function of the exchange of personal information and light-hearted banter. The interviews of the twenty teacher informants, were revealing, some of which produced a depth of detailed which connected

to multiple points brought out in prior literature or which served to elucidate the motivations or processes which preceded informant decisions to use or not use Internet technology.

Conclusions

This study can be cited in proposals for collaborations of government, industry, non-profit and intergovernmental organizations to effect social change by improving accessibility and usage of the Internet by teachers in San Lucas Toliman, and could be replicated in other remote sectors of Guatemala and other regions of Latin America. The PRA and PGI approaches used for conducting research are innovative methods to generate practical knowledge from within rural communities of developing nations and for their implementation to promote long-term self-determined change. Although enjoined as an urgent issue in prior literature, this research was the first of its kind to apply social capital theories to understand the under-researched topic of online education for poor sectors of the developing world. Those with buying power equivalent to the US middle class or above in any part of the world will have the means to access the latest innovations in online education, but those without equivalent resources continue to struggle for those same opportunities and are rarely enrolled for these services.

Real social change, and social justice, is represented by bringing forth evidence to support proposals for those who possess resources and knowledge for collaborating to provide high quality online educational services to people in rural areas of the third world who lack resources to pay what the market demands. These are they who, if left to their own devices, might never find ways to access the Internet and its wide range of resources

and learning opportunities. Teachers represent the greatest potential to function as agents of change, or catalysts for the diffusion of new learning via the Internet.

Equalizing access through provision of appropriate technology, and fomenting appropriate support networks to influence adoption and persistence in using the Internet, through processes designed by and for local communities, can permanently and positively impact the social, economic, and educational actualization of rural indigenous communities such as is represented in this study of the town of San Lucas Toliman, Guatemala. This study represents a great step forward for social change by narrowing the digital divide for English teachers seeking online professional development in rural Guatemala.

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APPENDIX A:
CODED TRANSCRIPTIONS OF SIX SAMPLE TEACHER INTERVIEWS
with English-Language Translations

Interview 1, Male, Kindergarten Teacher

INTERVIEWER: ¿Sí, sí hay transporte?

TEACHER 1: Sí.

INTERVIEWER: ¿Sí? Ah, que bueno, si quiera.

TEACHER 1: Por ejemplo, ahorita, eh-hay, espera, por el momento, hay espera, pickup-

INTERVIEWER: ¿Hay pickup? Ah-

TEACHER 1: Solo vengo en pickup. Y hay arriba para acá.

INTERVIEWER: Ah. De veras? O sea, ¿vienen varias pickups?

TEACHER 1: Sí.

INTERVIEWER: Muchas personas. ¿Llegan bastantes?

TEACHER 1: Si, hay bastantes. Bastantes.

INTERVIEWER: ¿De veras?

TEACHER 1: Um. Vienen y le recogen.

INTERVIEWER: Claro. Claro.

TEACHER 1: Y, también para acá.

INTERVIEWER: Sí. Sí. Y, ¿qué es la más noche que uno puede ir aquí en pickup?

TEACHER 1: A las 6 de la tarde.

INTERVIEWER: Ah-¿Ya más tarde, ya no hay pickup que vaya para allá?

TEACHER 1: No. Ya no hay. Solo este horario.

INTERVIEWER: Ajá.

TEACHER 1: Que-6:00. Eh-no. Casi de la camioneta, a las 5:00 pasa la última camioneta.

INTERVIEWER: Ah.

TEACHER 1: La ruta de-aquí a Chichicastenango.

INTERVIEWER: Ah.

TEACHER 1: Ajá.

INTERVIEWER: Porque es una área rural donde ustedes están, ¿verdad?

TEACHER 1: Sí.

INTERVIEWER: Ah-De acuerdo-

TEACHER 1: El camino que conecta entre la costa y el camino de interamericano (referring to the Pan American highway).

INTERVIEWER: Ah, sí, um-um. De acuerdo. Ya nada más hay una escuela en esa área rural, o, ¿hay cuántas escuelas?

TEACHER 1: En el área donde yo, eh-yo vengo son-son doce escuelas.

INTERVIEWER: ¿Doce?

TEACHER 1: Son doce escuelas.

INTERVIEWER: Ah. Que bien.

TEACHER 1: Son doce escuelas. Sí. Como aquí está, en, en triple escolar.

INTERVIEWER: Ajá.

TEACHER 1: Acá-abarca dos-municipios. En caso de acá, San Lucas, es un municipio-San Lucas. Ajá-y aparte del área rural es San Antonio Palopop, es-

INTERVIEWER: Este es el área donde-

TEACHER 1: Es el área donde yo enseño, ¿Sí?

INTERVIEWER: Ah, que bien. Muy bien. Y, ¿tiene cuánto tiempo enseñando?

TEACHER 1: Eh-y-Ahorita en el área oficial-

INTERVIEWER: Ajá-

TEACHER 1: Tengo-3 años.

INTERVIEWER: Tres años-

TEACHER 1: Ajá-pero-

INTERVIEWER: Ajá-

TEACHER 1: He trabajado por contrato también-

INTERVIEWER: Um. Ya.

TEACHER 1: Tengo como en total como unos ya 6 años en este trabajo.

INTERVIEWER: ¿De veras?

TEACHER 1: Sí.

INTERVIEWER: Ya tienes mucha experiencia. Qué bien.

TEACHER 1: Si, es bastante ya.

INTERVIEWER: Y, ¿te han dicho que ya ha enseñado qué grados?

TEACHER 1: Eh-yo he empezado a trabajar desde el 2º grado de primaria, he trabajado con 2º, con 3º, con 4º, con 5º, y últimamente con preprimaria.

INTERVIEWER: Preprimaria.

TEACHER 1: Si, con preprimaria.

INTERVIEWER: Ah.

TEACHER 1: De 6 años.

INTERVIEWER: ¿6 años?

TEACHER 1: Si, 6 años, por el momento.

INTERVIEWER: Ah, (laughs) que bien... y, ¿qué son los temas que enseña a los niños?

TEACHER 1: ¿Qué grados?

INTERVIEWER: Desde ahorita.

TEACHER 1: Ahorita, nosotros como todo cambia desde acá el gobierno.

INTERVIEWER: Claro.

TEACHER 1: Que este-este año en los últimos años que vengo a trabajar .

INTERVIEWER: Ajá.

TEACHER 1: Esta en vigencia el curriculum es más básico y ya.

INTERVIEWER: ¿El curriculum la trabaje?

TEACHER 1: El curriculum es más básico.

INTERVIEWER: Ah, ya.

TEACHER 1: Del CNB (Curriculum Nacional Base). Ajá. Ya, y el área que manejamos nosotros son cinco áreas del área de lenguaje, comunicación, lenguaje, educación física, también esta, como que también educación física, y medio ciencia natural... cinco años.

INTERVIEWER: Y, ¿enseñas estas áreas... todas estas áreas?

TEACHER 1: Eh, sí, todas estas áreas pero no en-en ... más buscamos dos áreas físicas, entre 3 de aprendizaje, en donde uno se puede trabajar en matemáticas y otros cursos, otro que matemáticas y otros cursos, otras temas, también lo que es lenguaje, eh, comunicación de lenguaje. Nosotros creemos con que Sí es más importante... otros son importantes pero como forman parte de-

INTERVIEWER: -de una área importante.

TEACHER 1: Sí.

INTERVIEWER: Que bueno. Y, por ejemplo, ¿usted se ha hecho uso del Internet aquí en el Pavarotti?

TEACHER 1: Por el momento, no.

INTERVIEWER: No ha venido.

TEACHER 1: No. **Hasta este momento no-no he-he venido.** (4) (5)

INTERVIEWER: Ah, de acuerdo.

TEACHER 1: Si, no he venido.

INTERVIEWER: Y, este, ¿podríamos saber sobre tales cual ha sido su impedimento por el cual no ha podido hacer el correo del Internet aquí?

TEACHER 1: Podríamos -eh-yo no sé, digamos eh-de otra manera, la verdad es que digamos que en el área que trabajamos, **el salario que nosotros recibimos es demasiado, demasiado, bajo**, pues. Es muy poco y, uno como maestro digamos, tiene que buscar otro alternativo de trabajo-eh-como no-no-no-

INTERVIEWER: ¿Tiene que pasar a otro trabajo como maestro?

TEACHER 1: Sí.

INTERVIEWER: Entonces, ¿usted tiene otro trabajo aparte de maestro?

TEACHER 1: Si, varias cosas. Sí. Tengo que buscar otro trabajo donde es.

INTERVIEWER: Sí.

TEACHER 1: Tenemos que buscar otro trabajo para echar de malas. (2)

INTERVIEWER: Y, ¿qué otras cosas hacen sus compañeros?

TEACHER 1: Es por eso, que, digamos, que el Internet me dificulta por el pasaje-pasaje y tiempo. (2)

INTERVIEWER: ¿No puede venir para aca?

TEACHER 1: No, no.

INTERVIEWER: ¿Por qué? Tiempo-

TEACHER 1: Tiempo y pasaje, no.

INTERVIEWER: Si, ah, de acuerdo. Y, ¿qué otras cosas hace como aparte de maestro?

TEACHER 1: Eh, la verdad que yo, maestro por la mañana, y por el mediodía me dedico la tarde del trabajo en el campo.

INTERVIEWER: En el campo.

TEACHER 1: Sí.

INTERVIEWER: Um.

TEACHER 1: Más tarde en el campo.

INTERVIEWER: ¿Algo manual, no?

TEACHER 1: Si, es algo poquito de-si-si cambia un poquito de-de que sea trabajo.

INTERVIEWER: Sí.

TEACHER 1: Que ya-

INTERVIEWER: Que bueno. Que bueno. Y, entonces usted decía la oposición que ha tenido de-

TEACHER 1: Sí. Tiempo y pasaje.

INTERVIEWER: Si, tiempo y pasaje. De acuerdo, y qué habilidades, pues, no usa el Internet para nada, para nada?

TEACHER 1: Bien, puedo...

INTERVIEWER: Como, ¿en cuántas ocasiones, pudo?

TEACHER 1: Em, por ejemplo, cuando utilizamos, en el ministerio de educación, (B) como hay que bajar algún programa de-o pone de un programa del el ministerio de educación (L), también utilizamos cuando necesitamos, eh, cuando necesitamos algún programa de computadora... un programa.

INTERVIEWER: Sí.

TEACHER 1: Se llama, se llama-cual programas sea, por ejemplo, en cada año, cada dos años el gobierno inicia nuevos programas así es que pues que el año pasado el gobierno que estuvo, (L) eh-útil izo Internet Explorer algo así.

INTERVIEWER: Sí

TEACHER 1: Ajá. Y-con eso por ejemplo eh a nosotros dan programas para trabajar (L) entonces, para ellos son que estar pues con las computadoras pues, eh-ponemos programas de-de ¿cómo se llama? Acrobat-7.1 8.1 y como programas cambiaron pues pruebas también van a la Acrobat al tanto con esto entonces estamos con esto, ¿ba? Programas de computadora... También, cuando necesitamos investigar algún tema... y nos piden eh...por necesidad también eh trabajamos (L).

INTERVIEWER: Sí.

TEACHER 1: Ajá. Sí.

INTERVIEWER: Y ¿qué tal le fue, um-esto?

TEACHER 1: De el-

INTERVIEWER: -de esto, del Internet?

TEACHER 1: Pues, no, no tanto, no mucho (1).

INTERVIEWER: ¿No tanto?

TEACHER 1: No, no.

INTERVIEWER: Digamos, ¿fuiste cada mes, cada semana?

TEACHER 1: Si, pues, sí.

INTERVIEWER: Cada...

TEACHER 1: Más... Como unos cuatro cinco veces al año, digo yo. (4)

INTERVIEWER: Ah.

TEACHER 1: De enero a octubre.

INTERVIEWER: octubre.

TEACHER 1: Ajá.

INTERVIEWER: Digamos, ¿unos cinco veces de enero al octubre?

TEACHER 1: Digamos cinco cuatro veces al año.

INTERVIEWER: Ah-perfecto, y-ha llegado a tener algunas habilidades a través del Internet?

TEACHER 1: Um.

INTERVIEWER: Algunas cosas que le haya ayudado en-

TEACHER 1: Um.

INTERVIEWER: -añadir a su clase, ¿alguna destreza que haya logrado a obtener?

TEACHER 1: Um. En caso de, en caso de lo que pensamos o que para el tiempo, con programas, y también a los diseños, o sea los diseño s graficos, Ah sea los dibujos-

INTERVIEWER: Ah.

TEACHER 1: para trabajar con dibujos—por ejemplo con Encarta 2007-2008—Si, si, es la forma que utilizamos—puedo llevar a la computadora, Sí porque como le decía, el problema de dinero? (4) Los anuncios de la televisión (L), como le decía, del Internet? Como les decía, el problema acá (inaudible). Hace poco pregunte como en la televisión, los anuncios de... Turbonet—yo creía que (inaudible) trabajar pero necesita de antena y de muchas cosas allí. Ya era muy complicado poner... (2) (3) (4)

INTERVIEWER: Era muy complicado poner-

TEACHER 1: Pues sí, no, no-las presiones abarca el poner de estas programas de-

INTERVIEWER: O, sea de que harías de-

TEACHER 1: Si, de antena y de muchas cosas. (2) (3) (4) (laughs)

INTERVIEWER: O sea de-

TEACHER 1: Si, aumentar calidad, pero-Sí, falta, falta, falta-

INTERVIEWER: O sea, ¿qué, aparte de comprar una antena, hay que pagar aparte un pago mensual?

TEACHER 1: Si, aparte un pago mensual que aparte-aparte-aparte hace poco que pedía-que-

INTERVIEWER: Ajá

TEACHER 1: -que recién que pedía, pedían 300 mensuales... 300 y más. (4)

INTERVIEWER: Más de 300... y si no es indiscreción, ¿qué es el sueldo de maestro?

TEACHER 1: Aquí, depende de mucho-de cuantos años llevas en la maestría-

INTERVIEWER: Ah.

TEACHER 1: Así es que depende-

INTERVIEWER: Ah.

TEACHER 1: No es tanto.

INTERVIEWER: Y así más necesidad me imagino que no hay.

TEACHER 1: No, no hay. Nos pagan por clases escolares: A, B, C-A por ejemplo tiene cuatro años.

INTERVIEWER: Entonces, ¿su sueldo actual es...?

TEACHER 1: Eh-ahorita es cerca de este-2000 quetzales (aprox. 220 dollars) (L)

INTERVIEWER: Entonces, ¿usted es de Clase A?

TEACHER 1: Si, clase A, clase B-A. El sueldo es muy poquito.

INTERVIEWER: Y, platíqueme como es que usted se animó de ser maestro. ¿Ha tenido alguna influencia que lo haya llevado a esa decisión?

TEACHER 1: Yo creo que por la misma situación en que venimos-eh-yo vengo-de una familia-eh-pobre-

INTERVIEWER: Um.

TEACHER 1: -y, entonces la alternativa no es más. Es sencilla. Era ingresar a la profesión que más buscaba que nunca tenían mis papáces en este pueblo. (B) La sociedad necesita y bueno las posibilidades económicas no daba. Por esto creo yo.

INTERVIEWER: O sea su-lo que hizo usted por la situación económica de sus padres, ¿no había otra opción de hacer otra carrera?

TEACHER 1: Sí.

INTERVIEWER: Era lo más practico, lo más sencillo?

TEACHER 1: Sí. Hacemos (inaudible) después.

INTERVIEWER: Y, ¿ha tenido alguna experiencia que le haya llevado a esta decisión? Digamos alguien o algo que le haya influenciado?

TEACHER 1: Si, por lo, el lugar donde vivimos. En un cantón (inaudible) cantón?

INTERVIEWER: Um.

TEACHER 1: Y fuimos los primeros creo yo en llegar como maestros en este lugar, pues era bonito pero realmente que animó a mis papás-fue un maestro también. (B)

INTERVIEWER: Ah. Tu papá fue maestro?

TEACHER 1: No, un maestro.

INTERVIEWER: Ah, un maestro animó a su papá?

TEACHER 1: Ajá. Para que nos tenía en la escuela a estudiar, que seguíamos estudiando aunque no íbamos a ir.

INTERVIEWER: Ah, que bueno.

TEACHER 1: Si, para que nos enviara a la escuela para estudiar a seguir estudiando por que no íbamos a ir.

INTERVIEWER: Um. Um.

TEACHER 1: Sí. No íbamos a ir porque en el cantón donde estábamos no había escuelas.

INTERVIEWER: Oye. Muchas personas no estudiaban allí.

TEACHER 1: Sí. No había escuela.

INTERVIEWER: No había escuela.

TEACHER 1: Por eso, oye había que caminar unos tres kilómetros (laughs).

INTERVIEWER: para estudiar?

TEACHER 1: Exacto.

INTERVIEWER: Muy bien.

TEACHER 1: Um. Y ahora ya.

INTERVIEWER: Entonces ser maestro fue lo que decidió usted para-

TEACHER 1: Exacto.

INTERVIEWER: a estudiar. Que bonito. Entonces ustedes—

TEACHER 1: Somos los primeros en abrir el camino y ahora hay varios con diferentes (inaudible) de estudio.

INTERVIEWER: ¿Tienes cuanto tiempo allí viviendo en un cantón?

TEACHER 1: Ahorita tengo 28 años.

INTERVIEWER: ¿Sí? Varios. Um. ¿Todos eran los primeros allí?

TEACHER 1: Estuvimos allí toda la familia-¿Sí?

INTERVIEWER: Claro. Que bonito. Que bonito. Y, ¿ha tenido alguna experiencia que tu puedes compartir que le haya llevado tomar esta decisión? alguna experiencia especial?

TEACHER 1: Eh, como maestro?

INTERVIEWER: Exacto-como maestro.

TEACHER 1: Eh, yo creo que digamos por la-por la relación que-que tiene mi papá con la gente. Como a él le ha gustado estar en grupos religiosos. Entonces le gusta-tiene que enseñar este grupo y ha hecho que vienen con nosotros a la casa como que dice toma las cosas a lo personal y como que así estaba acostumbrada estar entre la gente.

INTERVIEWER: (inaudible) Ah.

TEACHER 1: Aunque yo una vez estaba muy tímido pero tenía que aguantar.

INTERVIEWER: (laughs)

TEACHER 1: Pero, así-así-así es la-

INTERVIEWER: Pues me imagino que estar con los niños se siento uno más cómodo.

TEACHER 1: Sí, con los niños es más divertido.

INTERVIEWER: Sí. Me imagino-

TEACHER 1: Me es muy alegre-

INTERVIEWER: Sí.

TEACHER 1: Lo que falta a veces es cuando no hay material-y cuando no hay suficiente tiempo se siente incomodo y un poquito limitado porque no tiene con que pagar.

INTERVIEWER: Sí. Se podría trabajar con más alegría.

TEACHER 1: Sí. Faltan muchas cosas.

INTERVIEWER: Y este-

TEACHER 1: Pero-estar con todos es bonito-

INTERVIEWER: Y cuando usted busca en el Internet para desarrollarse un poquito aunque no lo usas en tu desarrollo profesional, ¿con que preocupaciones usted se enfrenta?

TEACHER 1: Yo pienso que-que nos falta mucho.

INTERVIEWER: Sí.

TEACHER 1: Sí. Me hace que me falta mucho explorar este-esta sistema. (4) La verdad lo único es que hago es entrar en la página web y luchar por una dirección realmente siento lo que uno puede. La verdad es que me falta mucho por saber que es, como se maneja, como escribir y en que forma, y como se útil iza. Lo único que se puede hacer ahorita es-es esto! Meter mi direccion a la página web y ingresar allí y hasta allí llego, no más. Siento que me es una miseria lo que sí sé del Internet. (3) Me falta mucho.

TEACHER 1: Sí. Muchísimo.

INTERVIEWER: Y le gustaría hacer más cuando estas allí?

TEACHER 1: Me gustaría que? Que nos dieran una capacitación. (L) (BR) (3) Sí-del Internet quisiera saber de todo-de todo en verdad. La verdad-sí la computadora me ha-

INTERVIEWER: Sí.

TEACHER 1: Me ha gustado. Realmente me ha ayudado la computadora. (1) Pero yo, poco a poco, como decimos en Guatemala por parcial he aprendido muchas cosas. Sí, y he aprendido manejar. Sí pero teniendo la computadora allí-me hago.

INTERVIEWER: Sí.

TEACHER 1: Poco a poco, por mi no vaya trabajando una situación que a mi no-no no he vista nunca el inglés y intento y nunca. (2) (3) Así va uno avanzando poco a poquito.

INTERVIEWER: Dígame a que personas pide usted ayuda para obtener alguna guía o algunas habilidades para hacer mejor tu trabajo como maestro.

TEACHER 1: Eh, básicamente, en caso de nosotros, eh, tenemos alguna-es con base a las capacitaciones que nos dan por parte del ministerio de educación, con eso con las guías, con-con talleres-con esto trabajamos. También en las escuelas preguntamos a las personas que consideramos nosotros que tienen algo de experiencia con esto. Si-alguna duda-así es como nos ayudamos a trabajar.

INTERVIEWER: ¿Cómo sería obtener tu guía de maestro?

TEACHER 1: Sí.

INTERVIEWER: Y, ¿a qué personas recurres por guía o para obtener habilidades para utilizar el Internet?

TEACHER 1: Basamos-eh-si nos requieren. Las persona que más esta al cabo es el que atiende el café. (BR)

INTERVIEWER: ¿El café Internet?

TEACHER 1: Así. Ajá. Um.

INTERVIEWER: Y así, ¿en dónde usted busca el Internet?

TEACHER 1: Sí, porque en nuestra casa lo que necesita el sistema-necesita muchas cosas. Necesitamos tomar clases.

INTERVIEWER: Um.

TEACHER 1: o ir a un café Internet.

INTERVIEWER: Claro.

TEACHER 1: Y trabajar allí.

INTERVIEWER: Sí, como no.

TEACHER 1: Así es que hay que ir al café Internet. (BR)

INTERVIEWER: Café Internet. ¿Lo más usual es de allí, no?

TEACHER 1: Lugares locales.

INTERVIEWER: Cuando usted lo usa, ¿es aquí en San Lucas o es por allá cerca de—

TEACHER 1: Um. El primer área que se? En caso yo viajo un poquito. Sí un poquito más al área rural y donde voy más es Pan-Pana(jachel) y—

INTERVIEWER: Y, ¿viaja usted por su trabajo o por...

TEACHER 1: Por estudios, por necesidades, por tener que tomar...

INTERVIEWER: Viaja usted por estudios, ¿Sí?

TEACHER 1: Sí.

INTERVIEWER: ¿Así que trabaja y estudia?

TEACHER 1: Sí.

INTERVIEWER: Muy bien. Muy bien. Entonces mientras sigue estudiando hay que viajar.

TEACHER 1: Bien.

INTERVIEWER: ¿Y allí es donde usted encuentra el Internet?

TEACHER 1: Sí. Ajá. Um.

INTERVIEWER: Entonces usted busca en el Internet y quiere lograr algún trabajo. ¿Entonces a quien recurre, dice? ¿Con qué personas?

TEACHER 1: Con los que-con los encargados del Internet, a los que trabajan allí.

INTERVIEWER: Y, ¿es la única persona que...

TEACHER 1: Si, Sí. De allí no salgo mucho. Así se hace. Dice, “Está bien. Así se hace.”

INTERVIEWER: Um. ¿Qué son sus metas educacionales y cómo puede el Internet ayudarle a lograr estas metas?

TEACHER 1: El deseo que las metas es tener una licenciatura.

INTERVIEWER: ¿De qué-

TEACHER 1: Licenciatura-de esto que llevo ahorita-**de pedagogía y administración educativa**. Entonces es la meta que se me hace, que trataba al encontrar y pues ya cerramos.

INTERVIEWER: Y, piensa, ¿cómo puede el Internet le puede ayudar en sus metas?

TEACHER 1: Yo pienso que, que, en muchas formas y en dado caso ya logrando la meta eh-y, eh-trabajo me ayudaría-**me ayudaría en el trabajo.** (1)

Interview 1, Male, Kindergarten Teacher, English Translation

INTERVIEWER: Indeed, indeed there is transportation?

TEACHER 1: Yes.

INTERVIEWER: Yes? Oh, that's good, at least.

TEACHER 1: For example, right now, eh, there's a waiting place, for the moment, there's a bus stop, pickup...

INTERVIEWER: There's a pickup? Oh-

TEACHER 1: **I only come in a pickup.** There are (pickups) up there that come this way..

INTERVIEWER: Oh. Really? So, various pickups come?

TEACHER 1: Yes.

INTERVIEWER: Many persons? Do a lot arrive?

TEACHER 1: Yes, there are a lot. A lot.

INTERVIEWER: Really?

TEACHER 1: Hm-hmm. They come and pick you up.

INTERVIEWER: Sure, sure.

TEACHER 1: And, also over here.

INTERVIEWER: Yes, yes. **And how late into the night can one go here in a pickup?**

TEACHER 1: At 6 in the afternoon.

INTERVIEWER: Oh... Still later, there are yet no pickups that go there?

TEACHER 1: No. There aren't any others. Just this schedule.

INTERVIEWER: Uh-huh.

TEACHER 1: What... 6. Uh...no. Usually with the buses, at 5 the last bus passes by.

INTERVIEWER: Oh...

TEACHER 1: The bus route from... here to Chichicastenango.

INTERVIEWER: Oh.

TEACHER 1: Uhuh.

INTERVIEWER: Because it's a rural área where you all are, right?

TEACHER 1: Yes.

INTERVIEWER: Oh. Okay.

TEACHER 1: The road that connects with the coast and the Inter-American road (referring to the Pan American highway).

INTERVIEWER: Oh, yes, hm-hmm. Okay. There's still only one school in that rural área, or how many schools are there?

TEACHER 1: In the área where I, eh, I come from there are-there are twelve schools.

INTERVIEWER: Twelve?

TEACHER 1: There are twelve schools.

INTERVIEWER: Oh. How nice.

TEACHER 1: There are twelve schools. Yes. Compared to here, with triple the schools.

INTERVIEWER: Uhuh.

TEACHER 1: Here, it covers two municipalities. In the case of here, San Lucas, it is a municipality-San Lucas. Uhuh, and apart from the rural área, there's San Antonio Palopop, there's-

INTERVIEWER: This is the área where-

TEACHER 1: It's the área where I teach, you see?

INTERVIEWER: Oh, good. Very good. And how long have you been teaching?

TEACHER 1: Eh, I, right now in the public schools-

INTERVIEWER: Uhuh-

TEACHER 1: I've been teaching-three years.

INTERVIEWER: Three year.

TEACHER 1: Uhuh, but-

INTERVIEWER: Uhuh.

TEACHER 1: I've worked on contract, too.

INTERVIEWER: Hmm.So-

TEACHER 1: I have a total of about 6 years in this job.

INTERVIEWER: Really?

TEACHER 1: Yes.

INTERVIEWER: Now you have a lot of experience-great.

TEACHER 1: Yes, it's a lot now.

INTERVIEWER: And they've told you to teach which grades?

TEACHER 1: Eh, I began to work from second grade in elementary. I've worked with second, with third, with fourth, with fifth, and lately, with preprimary.

INTERVIEWER: Preprimary.

TEACHER 1: Yes, with preprimary.

INTERVIEWER: Oh

TEACHER 1: From 6 years on.

INTERVIEWER: Six years?

TEACHER 1: Yes, six years, for the moment.

INTERVIEWER: Oh (laughs) great. And what are the subjects you teach to the children?

TEACHER 1: What grades?

INTERVIEWER: From the present.

TEACHER 1: Right now, we-since everything changed from here in the government.

INTERVIEWER: Sure.

TEACHER 1: That this-this year and the last years that I've come to work.

INTERVIEWER: Uhuh.

TEACHER 1: A more basic curriculum is in force now.

INTERVIEWER: Do you work with the curriculum?

TEACHER 1: The curriculum is more basic.

INTERVIEWER: Oh, (I understand) now.

TEACHER 1: From the CNB (National Basic Curriculum). Uhuh. Now, and the area that we manage are five areas, in the area of language, communication, language, physical education, also there's like also physical education and a half of natural science-five years.

INTERVIEWER: And you teach these areas-all these areas?

TEACHER 1: Eh, yes, all these areas but not in-in-more we are looking at two physical areas, among three of learning, where one can work in mathematics and other is courses, another being mathematics and other courses, other subjects, also what is language, eh-communication of language. We believe that yes it is more important-others are important but since they form part of-

INTERVIEWER: of an important area-

TEACHER 1: Yes.

INTERVIEWER: Great. And, for example, have you made use of the Internet here in the Pavarotti school?

TEACHER 1: For the moment, no.

INTERVIEWER: You haven't come.

TEACHER 1: No. **Up until this time, no-I haven't come.** (4) (5)

INTERVIEWER: Oh, okay.

TEACHER 1: Indeed, I haven't come.

INTERVIEWER: And, uh, could I know about what things have been an impediment for which you haven't been able to use the email in the Internet here?

TEACHER 1: We could-eh-I don't know, we could say eh-in another way, the truth is that let's say that in the area where we work, **the salary that we receive is way too low,**

too low, then. It's very little, and, as a teacher let's say, one has to look for other alternatives for work-eh-since I don't-don't-don't

INTERVIEWER: You have to go over to another job as a teacher?

TEACHER 1: Yes.

INTERVIEWER: So, you have another job apart from being a teacher?

TEACHER 1: Yes, a variety of things. Yes. I have to look for another job where(ever) it is.

INTERVIEWER: Yes.

TEACHER 1: We have to look for another job, disgracefully. (2)

INTERVIEWER: And, what other things do your companions do?

TEACHER 1: It's for that reason that, let's say, that the Internet is hard for me because of bus fare-bus fare and time. (2)

INTERVIEWER: You can't come over here?

TEACHER 1: No, no.

INTERVIEWER: Why? Time-

TEACHER 1: Time and bus fare, no.

INTERVIEWER: Yes, oh, okay. And, what other things do you do, Aside from being a teacher?

TEACHER 1: Eh, really I (am a) teacher in the mornings, and by midday I dedicate the afternoon to working in the field.

INTERVIEWER: In the field.

TEACHER 1: Yes.

INTERVIEWER: Hmm.

TEACHER 1: Afternoons in the field.

INTERVIEWER: Something manual, right?

TEACHER 1: Yes, a litle-yes-it does change a little of-of what would be work.

INTERVIEWER: Yes.

TEACHER 1: Since-

INTERVIEWER: Great. Great. And, so you said the opposition that you have had is of-

TEACHER 1: Yes, time and bus fare.

INTERVIEWER: Yes, time and bus fare. Okay, and what abilities-then you don't use the Internet at all-at all?

TEACHER 1: Yes indeed, I can-

INTERVIEWER: Like, in how many occasions, could you?

TEACHER 1: Um, for example, when we utilize, in the ministry of education offices, (B) since one has to download this or that programa of-or they put on a software program from the ministry of education, (L) we utilize it too when we need, eh, when we need a certain computer software program-a software program-

INTERVIEWER: Yes.

TEACHER 1: which is called-is called-whatever software program it would be, for example, each year-each two years the government starts up new programs, likewise then last year the government that was in place (L) eh-utilized Internet Explorer, something like that.

INTERVIEWER: Yes.

TEACHER 1: Uhuh. And, with that for example, eh-they give us software programs to work on (L) so for them are-(one has) to be then (working) with the computers, then, eh-we boot up software programs of-What's it called?-Acrobat 7.1, 8.1, and since the software programs changed, then you try them out. They also go to Acrobat so much, for that reason then we are with this program, see? Computer software programs. Also, when we need to learn more about a subject, and they ask us, eh-of necessity, also, eh-we work on it. (L)

INTERVIEWER: Yes.

TEACHER 1: Uhuh. Yes.

INTERVIEWER: And how did this-hmm-go for you?

TEACHER 1: with-

INTERVIEWER: with this, the Internet?

TEACHER 1: Well, not-not too much, not much. (1)

INTERVIEWER: Not too much?

TEACHER 1: No, no.

INTERVIEWER: So we would say you went once a week, once a month?

TEACHER 1: Yes, well, yes.

INTERVIEWER: every-

TEACHER 1: More like four or five times a year. (4)

INTERVIEWER: Oh.

TEACHER 1: From January to October.

INTERVIEWER: October.

TEACHER 1: Uhuh.

INTERVIEWER: We would say like five times from January to October?

TEACHER 1: We would say five-four times a year.

INTERVIEWER: Oh, perfect, and-Have you come to have some skills by means of the Internet?

TEACHER 1: Hmm.

INTERVIEWER: Some things that have helped you in-

TEACHER 1: Hmm.

INTERVIEWER: adding to your class, some skill that you have managed to obtain?

TEACHER 1: Hmm. In the case of, in the case of what we think of what for time, with software programs, and also designs, o in other words graphic designs, in other words drawings-

INTERVIEWER: Oh.

TEACHER 1: for working with drawings, for example with Encarta 2007-2008. Yes, yes, it's the way we utilize it. I can handle computers, if because like I told you, the money problem? (4) Commercials on the television (L), like I told you, about the Internet? Like

I told you, the problem here (inaudible). Just a while back I asked since on the television, the commercials from-Turbonet-I thought that (inaudible) would work but it needs an antenna and a lot of other things. That made it very complicated to get-(2) (3) (4)

INTERVIEWER: It was very complicated to set up-

TEACHER 1: Well, yes, no-no-the stresses involved with operating these programs of-

INTERVIEWER: Or, in other words, what would you do with-

TEACHER 1: Yes, with the antenna and with a lot of things. (2) (3) (4) (laughs)

INTERVIEWER: Or, in other words, with-

TEACHER 1: Yes, improving quality, but-Yes, there's not enough, not enough, not enough-

INTERVIEWER: Or, in other words, that apart from buying an antenna, one has to pay a separate monthly payment?

TEACHER 1: Yes, a separate monthly payment that, besides that-besides that-besides that it's just a while back that I asked about it-that-

INTERVIEWER: Uhuh.

TEACHER 1: that recently when I asked about it, they were asking for 300 (quetzals) monthly (aprox. 40 U.S. dollars)-300 and more. (4)

INTERVIEWER: More than 300-and if this is not indiscreet to ask, what is the teacher's salary?

TEACHER 1: Here, it depends on a lot-of how many year you have accumulated in teaching-

INTERVIEWER: Oh.

TEACHER 1: Such that it depends-

INTERVIEWER: Oh.

TEACHER 1: It's not so much.

INTERVIEWER: And in that way more need I imagine, because there's not (enough).

TEACHER 1: No, no there isn't. They pay us by educational categories: A, B, C-A, for example is for four years-

INTERVIEWER: So, your current salary is...?

TEACHER 1: Eh, right now it's around, uh-2000 quetzals (aprox. 220 U.S. dollars) (L)

INTERVIEWER: So, you are in A Class?

TEACHER 1: Yes, A Class, A-B Class. The salary is very little.

INTERVIEWER: And, tell me how it is you became motivated to become a teacher. Is there some influence that has brought you to that decision?

TEACHER 1: I believe it because of the very situation we come from-eh-I come-from a family-eh-which is poor-

INTERVIEWER: Hmm.

TEACHER 1: and so there is no alternative. It's simple. It was to enter the profession most sought after that my parents never had in that village. (B) The society needs it and, well, moneywise there was no way to get by. That's why, I think.

INTERVIEWER: Or, in other words, your-what you did what because of your parent's economic situation, (and) there wasn't another option to pursue another career?

TEACHER 1: Yes.

INTERVIEWER: It was the most practical, and the simplest (thing to do).

TEACHER 1: Yes, we make (inaudible), afterwards.

INTERVIEWER: And have you had an experience that brought you to this decision? Let's say someone or something influenced you?

TEACHER 1: Yes, because of it, the place where we live. In a tiny village (inaudible) village?

INTERVIEWER: Hmm.

TEACHER 1: And were the first ones I think to arrive as teachers in that place, well it was beautiful but really what motivated my parents-He was a teacher too. (B)

INTERVIEWER: Oh. Your father was a teacher?

TEACHER 1: No, a teacher-

INTERVIEWER: Oh, a teacher motivated your father?

TEACHER 1: Uhuh. In order to keep us in school, studying, so we would continue studying even though we weren't going to attend.

INTERVIEWER: Oh, great.

TEACHER 1: Yes, so that he would send us to school to study-to keep studying because we weren't going to go.

INTERVIEWER: Hmm. Hmm.

TEACHER 1: Yes. We weren't going to go because in the little village where we were, there were no schools.

INTERVIEWER: Wow. Not many people studied there.

TEACHER 1: Right. There was no school.

INTERVIEWER: There was no school.

TEACHER 1: For that reason, listen-I had to walk some three kilometers. (laughs)

INTERVIEWER: to study?

TEACHER 1: Exactly.

INTERVIEWER: Wow.

TEACHER 1: Hmm. And still today.

INTERVIEWER: So what you decided was to be a teacher in order to-

TEACHER 1: Exactly.

INTERVIEWER: -study. How nice. So, you-

TEACHER 1: We are the first to open the way and now there are many with different (inaudible) of study.

INTERVIEWER: Have you been living a long time in a small village?

TEACHER 1: In the present I am 28 years of age.

INTERVIEWER: Yes? Many teachers? Hmm. All of you were the first ones there?

TEACHER 1: The whole family-we were all there-yes?

INTERVIEWER: Sure. How nice. How nice. And, was there some experience that you can share which caused you to take this decision? Some special experience?

TEACHER 1: Uh, as a teacher?

INTERVIEWER: Exactly-as a teacher.

TEACHER 1: Uh, I think that let's say because of the-because of the relation that-that my father has with the people. Since he (always) liked to be in religious groups. So he likes-he has to teach this group and has caused that they come with us to the house since as it is said, he takes things personally, and as such he was accustomed to being with the people-

INTERVIEWER: (inaudible) Oh.

TEACHER 1: Although one time I was very shy but I had to deal with it.

INTERVIEWER: (Laughs)

TEACHER 1: But, that's-that's-that's the-

INTERVIEWER: Well I imagine that being with the children makes one feel more at ease-

TEACHER 1: Yes, with children it's more fun-

INTERVIEWER: Yes. I imagine-

TEACHER 1: For me it's very energizing-

INTERVIEWER: Yes.

TEACHER 1: What is lacking at times is when there's no material-and when there's insufficient time one feels uneasy and a little limited because one doesn't have (money) to pay for things.

INTERVIEWER: Yes. One could work with more positive energy.

TEACHER 1: Yes. A lot of things are lacking.

INTERVIEWER: And, uh-

TEACHER 1: But-being with all of them is beautiful.

INTERVIEWER: And, when you search on the Internet to develop a little, even though you don't use it in your professional development, what concerns do you encounter?

TEACHER 1: I think that-that we are lacking a lot.

INTERVIEWER: Right.

TEACHER 1: Right. It seems to me that what I lack is to explore this-this system. (4) The truth is, the only thing that I do is enter into the web page and struggle to reach an address. I really feel bad about it. The truth is that I lack a knowledge about what it is, how it is operated, how to write and in what form, and how to utilize it. The only thing that can be done now is-is this! Stick my address into the web page and go in there and that's as far as I can get. I feel like what I know about the Internet is miserable. (3) I am lacking a lot. Really, a lot.

INTERVIEWER: And would you like to do more when you are online?

TEACHER 1: I'd like-What would it be? That they give us some training. (L) (BR) (3) Yes-I'd like to know everything about the Internet-everything, really. The truth indeed for me is that computers have-

INTERVIEWER: Right.

TEACHER 1: -have been a pleasure for me. Computers have really helped me. (1) But, little by little, as we say in Guatemala, I have learned many things half way. Yes, and I have learned to operate it. Yes, but if I could have the computer there-I'll do whatever it takes.

INTERVIEWER: Yes.

TEACHER 1: Little by little because of me a situation doesn't smooth itself out, because I have not-not-not ever seen English in print and I attempt and it never works out. (2) (3) As such, one advances little by little.

INTERVIEWER: Tell what persons do you go to for help to obtain some guidance or some skills to do your work as a teacher in a better way.

TEACHER 1: Eh, basically in our case, eh-we have some-based on the training sessions that the ministry of education gives to us, and with that the guidance, with-with workshops-we work with this. Also, in the schools we ask people that we consider to have experience with this. If (there's) some doubt-that's how we help each other to work.

INTERVIEWER: Like having a teacher's guide?

TEACHER 1: Yes.

INTERVIEWER: And to what persons do you go for guidance or to obtain skills for using the Internet?

TEACHER 1: We base ourselves-eh-if it is required of us-the person who is most at the helm is the one who watches over the café. (BR)

INTERVIEWER: The Internet café?

TEACHER 1: Yes. Uhuh. Hmm.

INTERVIEWER: And as such, where do you find the Internet?

TEACHER 1: Right, because in our house what the system needs-it needs a lot of things. We need to take classes.

INTERVIEWER: Hmm.

TEACHER 1: or go to an Internet café.

INTERVIEWER: Sure.

TEACHER 1: and work there.

INTERVIEWER: Yes, of course.

TEACHER 1: As such one has to go to the Internet café. (BR)

INTERVIEWER: The Internet café. That's the usual way to go, right?

TEACHER 1: Local places.

INTERVIEWER: When you use it, is it here in San Lucas or is it there near-

TEACHER 1: Hmm. The principal place I know about? In my case I travel a little. Yes, a little more to a rural área and where I go most is Pan-Pana (Panajachel) and-

INTERVIEWER: And you travel for your work or for-

TEACHER 1: For studies, for necessities, because of having to take-

INTERVIEWER: You travel because of your studies, right?

TEACHER 1: Yes.

INTERVIEWER: So you travel and you study?

TEACHER 1: Yes.

INTERVIEWER: Wow. Wow. So, while you continue your studies, you must travel.

TEACHER 1: Right.

INTERVIEWER: And it's there where you encounter the Internet?

TEACHER 1: Yes, Uhuh. Hmm.

INTERVIEWER: So you look on the Internet and want to achieve some work. So, who do you say you go to? With what person?

TEACHER 1: With those who-who are in charge of the Internet-those who work there.

INTERVIEWER: And is that the only person who-

TEACHER 1: Yes, yes. I don't vary much from that. That's how it's done. He says, "Good. That's how it's done.

INTERVIEWER: Hmm. What are your educational goals and how can the Internet help you to achieve these goals?

TEACHER 1: My desire per my goals is to have a bachelor's degree.

INTERVIEWER: What área?

TEACHER 1: Bachelor's degree-that's what I am involved in right now-in pedagogy and educational administration. So it is the goal that seems (best) to me, that I started into once I found it, and well now we close.

INTERVIEWER: And, do think about how the Internet can help you in your goals?

TEACHER 1: I think that, that, in many forms and once I've achieved the goal, eh-and at work it would help me-it would help me at work. (1)

Interview 3, Male, Elementary School Principal

INTERVIEWER: ¿Qué grados enseña?

TEACHER 3: Trabajo en la escuela de la escuela, (name of school). Está como a quince kilómetros de acá de San Lucas Toliman, entrando a Patulul. Tenemos 355 alumnos. Soy director de la escuela.

INTERVIEWER: ¿Y, al hacer uso del Internet en la escuela Pavarotti, ha sido útil para usted para mejorar como maestro?

TEACHER 3: Muy poco. Muy poco, porque no la sabía.

INTERVIEWER: Ah. Entonces no ha podido hacer uso aquí?

TEACHER 3: No.

INTERVIEWER: Y, para usted, ¿cuáles habilidades ha llegado a obtener ahora?

TEACHER 3: Muchisimos. (1)

INTERVIEWER: Um.

TEACHER 3: Desde recibir "mails", también me ha servido comunicar con ustedes. (1)

INTERVIEWER: Um.

TEACHER 3: con el profesor, con las lecciones que ha dado, también me comunico con las universidades. (4) También me comunico con páginas de la ciencia y de la tecnología.

INTERVIEWER: ¿Con qué frecuencia usa el Internet para ayudarse en su trabajo como maestro?

TEACHER 3: únicamente hasta cada semana reviso mi correo porque no tengo dinero de venir todos los días. Tenía que subir quince kilómetros para que-y únicamente no hay-no hay dinero. (2) (4)

INTERVIEWER: Entonces, ¿usted dice que utiliza el Internet únicamente una vez a la semana?

TEACHER 3: Sí unas tres-cuatro horas, una vez a la semana. (4)

INTERVIEWER: Platíqueme que fue lo que lo animó a usted decidir ser un maestro.

TEACHER 3: Básicamente, decidí ser maestro porque vengo de una familia pobre-muy pobre. A duras luchas me apoyaron en la parróquia. Mi madre, mi padre me dieron algo

de dinero para que yo pagara mis libros. Ahora, quisiera estudiar la maestría o inclusive una maestría “online” o sea, Internet, (1) pero no puedo porque allí se tiene que pagar el tiempo. (2) Hay que pagar la matrícula. ¡Ay! De verdad, estudiar a estas alturas es un lujo.

INTERVIEWER: ¿Ha tenido alguna influencia que lo haya llevado a esa decisión?

TEACHER 3: La situación económica, porque antes-antes solo tenían una oportunidad de ser maestro las personas ladinas-las personas que son caucásicas o sean españoles. En este sentido, lo que somos mayas-los que somos maya-hablantes-no tenemos la oportunidad de esto pero al raíz de todo esto la parroquia me pudo ayudar. Pues, fui escalando. Así es que fui a Quetzaltenango, al ser maestro.

INTERVIEWER: ¿Cuando usted usa el Internet para desarrollarse profesionalmente, con qué preocupaciones se ha enfrentado?

TEACHER 3: Básicamente, eh-Tengo que reconocer que me hace falta mucho el inglés, y de veras, es precisamente el inglés-el inglés. (3) Pero, definitivamente me gustaría entrar en el sitio web de la NASA, de cuerpos académicos (y) de cuerpos de investigaciones (en inglés) y quisiera compartir mi experiencia como profesional, como maya-como profesor maya. Quisiera abrir un espacio, pero la barrera lingüísticamente es el inglés. (3)

INTERVIEWER: Ah, De acuerdo. Además de no tener computadora, ¿Qué desafíos ha habido?

TEACHER 3: Las máquinas (de mi escuela)-Hace tres años se están deteriorando las máquinas para poder renovar este equipo de computo. (4)

INTERVIEWER: ¿Y, quién le anima o quien le desanima para usar o no usar el Internet?

TEACHER 3: Básicamente, un preocupación que siento es que el Internet es una herramienta poderosa para aprendizaje. (1) Pero, cuando decimos a los niños de Patulul de San Lucas que vayan al Internet, (debemos decir) que jamás se olviden de su cultura. Así está hecho el Internet como una aldea mundial. Allí, se olviden de las culturas, allí se olvida del Quiché, el Cakchiquel, el Tzotujil, y se entra a la cultura consumista, y esto va en contra de lo que decían nuestros abuelos-que sólo tengan lo que es necesario, que no compares tu aquí y allá, y que sólo tienes lo que es necesario-lo necesario. (1)

INTERVIEWER: Dígame a que personas pide usted ayuda para obtener alguna guía o algunas habilidades para hacer mejor tu trabajo como maestro.

TEACHER 3: A mis niños-a mis niños de la primaria o, básicamente, a ellos, y a los padres de la familia y-

INTERVIEWER: Por ejemplo, ¿cuando está en el Internet y se atora y se necesita el inglés, por ejemplo, que es difícil, a quién recurre para resolverlo?

TEACHER 3: Me los ingenio. Por ejemplo, busco-busco las páginas en español y todo esto y conocer de computación. (L)

INTERVIEWER: Um.

TEACHER 3: Esto me ayuda muchísimo.

INTERVIEWER: ¿Para desarrollarse profesionalmente a través del Internet, buscas ayuda de personas o lo hace independientemente?

TEACHER 3: Independiente. También, acá, dentro del curso, hay un CD (que) se llama "Internet", y es interactivo. (L)

INTERVIEWER: Ah, que bien. Y, ¿piensas que el Internet será útil en el futuro para usted y para maestros semejantes a usted en otros lugares?

TEACHER 3: Por medio del Internet, me ahorro tiempo-para irme a (la ciudad de) Guatemala por correo, y económico por entrar a la universidad. (1)

INTERVIEWER: ¿Cuáles son sus metas educacionales y como puede el Internet ayudarte?

TEACHER 3: Conseguirme una vega prestamo para estudiar mi maestría . Tengo deseos de estudiar tres maestrías pero lo que más me gusta es la docencia superior. Otra que me gusta es del desarrollo comunitario. Es mi área-es mi gusto, porque yo conozco lo que es la pobreza rural. Y, gracias a Ajáw, gracias a Dios, porque no todos tienen este hábito.

INTERVIEWER: ¿Cómo puede el Internet ayudarte en sus metas?

TEACHER 3: ¡Ah! Eh-buscando allá una vega en línea, eh? (L) (1) Pero, puedo ver como buscar un mejor trabajo pero de esto no hay acá en Guatemala.

Interview 3 Male, Elementary School Principal, English Translation

INTERVIEWER: What grades do you teach?

TEACHER 3: I work in the school, of the (name of school). It's at about fifteen kilometers from here from San Lucas Toliman, entering at Patutulul. We have 355 students. I am the school principal.

INTERVIEWER: And, when making use of the Internet at the Pavarotti school, has it been useful for you to improve as a teacher?

TEACHER 3: Very little. Very little, because I didn't know about it.

INTERVIEWER: Oh. So, you have not been able to make use of it here?

TEACHER 3: No.

INTERVIEWER: And, for you, what skills have you managed to obtain now?

TEACHER 3: Very many. (1)

INTERVIEWER: Um.

TEACHER 3: From receiving "mails", also it has allowed me to communicate with them. (1)

INTERVIEWER: Um.

TEACHER 3: with the professor, with the lessons that have been given, also I communicate with the universities. (4) Also, I communicate with science web pages and technology web pages.

INTERVIEWER: How frequently do you use the Internet to aid yourself in your work as a teacher?

TEACHER 3: Only once a week do I review my mail because I don't have money to come every day. I had to go fifteen kilometers in order to-and the only thing is there is- there is no money. (2) (4)

INTERVIEWER: So, you say that you use the Internet only once a week?

TEACHER 3: Yes, just three or four hours, once a week. (4)

INTERVIEWER: Tell me what was it that motivated you to decide to be a teacher.

TEACHER 3: Basically, I decided to be a teacher because I come from a poor family-very poor. With great sacrifice they supported me to go the parochial school. My mother, my father gave me a little bit of money to pay for my books. Now, I would like to study a master's degree or even a master's "online", in other words, via Internet, (1) but I can't because there one has to pay for the time. (2) One must pay for enrollment. Oh! In truth, to study at this point in life is a luxury.

INTERVIEWER: Has there been some influence that has brought you to that decision?

TEACHER 3: The economic situation, because before-before the only ones who had an opportunity to be a teacher were the ladinas (women of Spanish-Mayan mixed race)- (and) the Caucasian or as it would be Spanish. In this sense, those of us who are Mayans- those of us who are speakers of Mayan languages- we don't have the opportunity of (doing) this but precisely because of this the parish could help me. Then, I went moving up. Such it is that I went to Quetzaltenango, to be a teacher.

INTERVIEWER: When you use the Internet to develop yourself professionally, with what concerns have you dealt?

TEACHER 3: Basically, eh-I have to recognize that I am lacking a lot in English, and really, it is precisely English-English. (3) But, definitely I'd like to go into the NASA website, and into academic bodies (and) into research sites (in English) and I'd like to share my experience as a professional, as a Mayan-as a Mayan professor. I would like to open a space (on the Internet), but the linguistic barrier is English. (3)

INTERVIEWER: Oh, okay. Besides not having a computer, what challenges have you had?

TEACHER 3: The (computer) machines (in the school). For the last three years the (computer) machines have been deteriorating-in order to be able to renovate this computer equipment. (4)

INTERVIEWER: And, who motivates you or who demotivates you for using or not using the Internet?

TEACHER 3: Basically, a concern that I feel is that the Internet is a powerful tool for learning. (1) But, when we say to the children of Patutulul or of San Lucas that they go on to the Internet, (we should say) that never should they forget their culture. As such the Internet represents a world village. There, cultures are forgotten, Quiché (a Mayan language) is forgotten, also Cakchiquel and Tzutujil (Mayan languages), and one enters into the consumer culture, and this runs against what our forefathers told us-that one should only have what is necessary, that you should not compare here and there, and that you only should have what is necessary-what is necessary. (1)

INTERVIEWER: Tell me-To whom do request help to obtain guidance or some skills to do your job better as a teacher?

TEACHER 3: From my children-my children of the primary school, basically, from them, and from the parents of the families and-

INTERVIEWER: For example, when you are on the Internet and you get tied up and English is needed, for example, which is difficult, who to do go to, to resolve it.

TEACHER 3: I figure it out myself. For example, I look for-I look for the pages in Spanish and all this and to know computing. (L)

INTERVIEWER: Hmm.

TEACHER 3: This helps me very much.

INTERVIEWER: To develop yourself professionally via the Internet, do you seek help from persons or do you do it independently?

TEACHER 3: Independently. Also, here, within the course, there's a CD (that) is called "Internet", and it's interactive. (L)

INTERVIEWER: Oh, great. And, do you think that the Internet could be useful in the future to you and to teachers like you in other places?

TEACHER 3: By means of the Internet, I save time-going to Guatemala (City) by mail, and economical for entering into the university. (1)

RC Z: What are your educational goals and how can the Internet help you?

TEACHER 3: To obtain a scholarship loan to study my master's degree. I have desires to study three masters degrees but what I like most is higher education. Another that I like is community development. It's my área-something I like, because I know what rural poverty is. And, thanks to Ajáw (Quiché name for God}, thanks to God, because not everyone has this habit.

INTERVIEWER: How can the Internet help you with your goals?

TEACHER 3: Oh! Eh-searching for a scholarship on line, eh? (L) (1) But, I can see how to look for a better job but there are none of these here in Guatemala.

Interview 4, Female, Middle School Teacher

INTERVIEWER: Tu eres maestra, ¿verdad?

TEACHER 4: Si, y me gradué de secretaria pero trabajo como maestra ahorita.

INTERVIEWER: Entonces, ¿cuánto tiempo tienes trabajando como maestra?

TEACHER 4: Pues, la verdad, hasta ahorita sería mi segundo año.

INTERVIEWER: Su 2° año-

TEACHER 4: Si-

INTERVIEWER: ¿Qué grados enseñas?

TEACHER 4: Nivel básico, primero, segundo y tercero básico.

INTERVIEWER: Muy bien.

TEACHER 4: O sea, 7, 8, y 9.

INTERVIEWER: 7, 8, 9. De acuerdo y ¿Qué temas enseña?

TEACHER 4: Eh, pronombres, verbo “to be” y verbos auxiliares. Los adverbios frecuenciales, y que más? Verbos simples y verbos irregulares. Irregulares también.

INTERVIEWER: Entonces, ¿todo tiene que ver con la enseñanza de inglés, si?

TEACHER 4: Sí.

INTERVIEWER: De acuerdo, perfecto. Y, ¿al hacer uso del Internet en la escuela Pavarotti ha sido útil para usted para mejorar como maestra? Tu dices los lunes, ¿verdad? ¿En qué manera le ha ayudado?

TEACHER 4: Cuando tengo alguna dificultad con el Internet, eh, más o menos yo busco a través del Internet, ajá? Así es que he encontrado mucha información. (L) Estoy explorando en una página de inglés muy buena-la verdad, me ha servido bastante. Tiene que ver con gramática inglés y mucho otro tipo de formas. El idioma inglés me da bastantito trabajo. (3) Esto. Entonces, por ejemplo, al usar de ese-esa página. (1)

INTERVIEWER: Y, ¿Qué habilidades ha llegado a obtener ahora?

TEACHER 4: Qué hubo más habilidades que he sacado de la computadora, y la verdad, ¿Sí?-las tareas que (el profesor) asignó.

INTERVIEWER: Ah.

TEACHER 4: Anteriormente no sabía usar el Internet. Pero hasta ahorita yo lo puedo bien usar. (4)

INTERVIEWER: ¿Hace cuánto tiempo lo has utilizado?

TEACHER 4: Desde 2 años.

INTERVIEWER: Um.

TEACHER 4: Casi 2, 3 años.

INTERVIEWER: Ajá. Ah, que bien. Y, por ejemplo, ¿qué otras cosas has hecho con el Internet?

TEACHER 4: Um. Casi sólo las tareas y cuando al buscar algunas-algunos temas.

INTERVIEWER: Y, ¿has usado el Internet para buscar correos?

TEACHER 4: Si, correos he utilizado.

INTERVIEWER: Como correos, email.

TEACHER 4: Muy bien, para mantener comunicación con otras personas.

INTERVIEWER: Si, perfecto. Más o menos, ¿con qué frecuencia usas el Internet?

TEACHER 4: Casi usualmente, ajá.

INTERVIEWER: ¿Cada día, digamos?

TEACHER 4: Sí. Una vez o dos veces por semana.

INTERVIEWER: ¿Mucha más trabajo de maestra o para personal?

TEACHER 4: De las dos cosas—personal y trabajo.

INTERVIEWER: Platíqueme que fue lo que la animó a usted decidir ser una maestra.

TEACHER 4: Eh, en la verdad, si, yo me decía algo así, como muy insegura para cual elegir para hacer un trabajo, verdad? Pero, gracias a Dios, me dieron la oportunidad acá en el colegio y me animé. (BR) La verdad, si, me animé. (laughs)

INTERVIEWER: Si, ¿tomaste la decisión porque vino la oportunidad?

TEACHER 4: Si, porque también en el trabajo anterior, trabajaba con niños y siempre me gusto la comunicación. He querido siempre que la gente se supere. Siempre me he interesado, siendo más acción.

INTERVIEWER: Ajá. Que bien. Y, ¿ha tenido alguna experiencia que la haya llevado a esa decisión?

TEACHER 4: La verdad, Sí. últimamente, no.

INTERVIEWER: Y, ¿ha tenido alguna experiencia que la haya llevado a esa decisión?

TEACHER 4: Si, en el trabajo anterior que vino, eh, todo porque era un buen grupo de jóvenes que yo tendía y que yo tome la decisión de poder enseñar y-

INTERVIEWER: Si, y, ¿qué de tu trabajo anterior?

TEACHER 4: Eh, trabaje con niños pobres en una fundación también.

INTERVIEWER: Que bonito. Ajá. ¿En qué fundación era?

TEACHER 4: CFCA.

INTERVIEWER: Ah, ¿de veras? Y, ¿que hacías allí?

TEACHER 4: CFCA-Christían Foundation for Children and Aging (**L**)

INTERVIEWER: Ah. Um.

TEACHER 4: Así es el nombre que tienen.

INTERVIEWER: Ah. Um. Y, ¿qué hacías allí?

TEACHER 4: Trabajaba como-como trabajadora social.

INTERVIEWER: Ah, que bonito.

TEACHER 4: Sí.

INTERVIEWER: Ajá.

TEACHER 4: Así que era visitar de ver las familias, trabajando con las ancianas y los niños.

INTERVIEWER: Y, ¿los entrevistabas?

TEACHER 4: Sí, entrevistar a las personas si había posibilidades que ingresaran al proyecto viendo las necesidades de cada uno.

INTERVIEWER: Ah. Ajá. Ah. Que bien. Que interesante. Y, ¿cuánto tiempo trabajabas allí?

TEACHER 4: Casi 6 años. Cinco años y media.

INTERVIEWER: Ah, de verdad.

TEACHER 4: Ajá.

INTERVIEWER: Ah, que tenías cinco años, ya era mucho.

TEACHER 4: Sí, era mucho.

INTERVIEWER: Pues con razón querías seguir trabajando con ellos. Que bueno, de veras. Que bonito. Entonces, ¿esta experiencia es lo que le hizo empeñar, empeñar esta-

TEACHER 4: Porque como encontrábamos familias muy, muy necesitadas hicimos estudios, economía, y por eso, y prácticamente enseñar a los niños pequeños, se que yo puedo enseñar.

INTERVIEWER: Ah, Sí. Es un bonito trabajo, enseñar.

TEACHER 4: Sí.

INTERVIEWER: Y, cuando usted usa el Internet para desarrollarse profesionalmente, ¿con qué preocupaciones se ha enfrentado? Por ejemplo, ¿cuando usted se pone en el Internet, con que preocupaciones se enfrenta?

TEACHER 4: ¡Um! Pues, hasta el momento, yo siento que voy bien. No-no siento que he encontrado ninguna dificultad.

INTERVIEWER: Ajá.

TEACHER 4: Así es que yo he sabido que-

INTERVIEWER: De veras. ¿No ha habido algo que al usar la máquina se preocupa?

TEACHER 4: No, no, no por el momento, no.

INTERVIEWER: No ha habido nada. Ah. Ah, que bueno. ¿Allí lo llevas?

TEACHER 4: Si, poco a poco.

INTERVIEWER: Ajá. Que bueno, eh. ¿Y algún desafío que le ha presentado?

TEACHER 4: Por el momento, no.

INTERVIEWER: Ah, ¿cuando has usado la computadora es fácil usarla? ¿No le ha hecho difícil?

TEACHER 4: No, por el momento, no.

INTERVIEWER: ¿Hay algo que le anima o incluso hay personas que le desaniman a hacer uso del Internet?

TEACHER 4: No. No encuentro. Porque incluso hasta he dicho a otros compañeros con niños o a mis propios hermanos que cualquier trabajo lo encuentro buscando en el Internet. (B) (Inaudible) hasta allí he encontrado a modas que encuentro muy bonito.

INTERVIEWER: Es cierto...

TEACHER 4: Ajá. Pero (usarlo) así es muy bonito.

INTERVIEWER: ¿De veras?

TEACHER 4: Una sistema muy actualizada para poder (hacer cosas) así. (1)

INTERVIEWER: Así es que has podido meter a muchos sitios.

TEACHER 4: Sí, la verdad sí, porque como es la manera que así los maestros, a buscar unos modelos de vestidos de novios porque es el trabajo que escogieron, entonces hemos subido y en la clase encontramos allí, esta de unas de las hojas que imprimimos, vas a sacar un vestido de—

INTERVIEWER: Al pasar estos dos años de Internet, ¿has podido encontrar las cosas que necesitas?

TEACHER 4: Sí.

INTERVIEWER: Que bueno, entonces, y cuando vas al Internet, ¿vas sola o acompañada?

TEACHER 4: Bien, casi (siempre) sola...

INTERVIEWER: Y, dime a que personas pide usted ayuda para obtener alguna guía o algunas habilidades para hacer mejor tu trabajo como maestra.

TEACHER 4: Por el momento, casi a quien pido un poco de ayuda es uno de los maestros que esta acá en el colegio **(B)** y al director **(BR)** que siempre está a cargo de guiar siempre a todas.

INTERVIEWER: Ah, que bien. Y también, ¿a qué personas recurras por guía o para obtener habilidades para utilizar el Internet?

TEACHER 4: Um. La verdad en quien-cuando-siento que me cuesta-¿Sí? Pues, al encargado del Internet. Ajá. Es a quien le pido... (IT technician at Pavarotti CTC)... **(BR)** que le pido ayuda, Sí. El es el experto.

INTERVIEWER: Si, y para desarrollarse profesionalmente a través del Internet, ¿buscas ayuda de personas o lo hace independientemente?

TEACHER 4: Independiente.

INTERVIEWER: ¿No otras personas y vas con él?

TEACHER 4: Si, yo pregunto rapidito y él me avisa que es lo que hay que hacer **(BR)**.

INTERVIEWER: Entonces, ¿no hay otra persona? ¿Amigo, familiar, vecino o maestro que le pueden ayudar con el Internet?

TEACHER 4: Um. No, solo él me ha ayudado porque en veces me ayuda donde encontrar tal página y dice, “Claro, en lo seguida vas a encontrar”, y él me ha ayudado bastante.

INTERVIEWER: ¿Cuánto de su éxito al enseñar en clase se debe a la ayuda del Internet?

TEACHER 4: Mucho éxito en las clases. (1)

INTERVIEWER: Como, ¿qué has podido encontrar?

TEACHER 4: Oraciones, conversaciones, eh.. dibujos, (inaudible), frases, vocabulario, verbos, gramatica. (1)

INTERVIEWER: Bastantes.

TEACHER 4: Con un desvio le quedas de atorado también. Ajá. Sí. A veces me ha pasado con unas palabras que no los he visto y “Ah! ¿Qué hice? ¿Qué hice?” (1)

INTERVIEWER: ¿Qué son sus metas educacionales?

TEACHER 4: Una de mis metas es que los jóvenes se interesen más en aprender un idioma no solamente el inglés, porque mucho piden más que aprender. Hacer parte de

ellos también, ¿verdad? Sí es que quieren, aprenden. Ellos se van a interesar solos.
(Inaudible).

INTERVIEWER: ¿Cómo puede el Internet ayudarte en sus metas?

TEACHER 4: Um. Explorar.

Interview 4, Female, Middle School Teacher, English Translation

INTERVIEWER: You are a teacher, right?

TEACHER 4: Yes, and I graduated as a secretary but I work as a teacher, now.

INTERVIEWER: So, how long have you been working as a teacher?

TEACHER 4: Well, actually, up until now will be my second year.

INTERVIEWER: Your second year?

TEACHER 4: Yes.

INTERVIEWER: What grades do you teach?

TEACHER 4: Basic level, first, second and third basic.

INTERVIEWER: Wow.

TEACHER 4: In other words,(grades) 7, 8, and 9.

INTERVIEWER: 7, 8, 9. Okay, and what subjects do you teach?

TEACHER 4: Eh-pronouns, the verb “to be” and auxiliary verbs. Adverbs of frequency and what else? Simple verbs and irregular verbs. Irregulars, too.

INTERVIEWER: So, everything has to do with the teaching of English, right?

TEACHER 4: Yes.

INTERVIEWER: Okay, perfect. And, when you make use of the Internet in the Pavarotti school has it been useful for you to improve as a teacher? You say Mondays, right? In what way has it helped you?

TEACHER 4: When I have some difficulty with the Internet,eh-more or less, I look through the Internet, uhuh? It is in this way that I have found much information. (L) I am exploring in a page of English that is very good-the truth is, is has been of great value to me. It has to do with English grammar and many other types of forms. The English language gives me a lot of work. (3) That’s it. So, for example, to use that-that page. (1)

INTERVIEWER: And, what skills have you managed to obtain now?

TEACHER 4: That there were more skills that I have gotten from the computer, and the truth, right? The lessons that (the professor) assigned.

INTERVIEWER: Oh.

TEACHER 4: Before I didn't know how to use the Internet. But up until now I can use it well. (4)

INTERVIEWER: For how long have you used it?

TEACHER 4: For two years.

INTERVIEWER: Um.

TEACHER 4: Almost two, three years.

INTERVIEWER: Uhuh. Oh, great. And, for example, what other things have you done with the Internet?

TEACHER 4: Hmm. Almost all of the assignments and when looking for some-some subjects.

INTERVIEWER: And, have you used the Internet to look for mail?

TEACHER 4: Yes, I have used mail.

INTERVIEWER: Such as mail messages, email.

TEACHER 4: That's right, to maintain contact with other persons.

INTERVIEWER: Yes, perfect. More or less how frequently do you use the Internet?

TEACHER 4: Almost all the time, uhuh.

INTERVIEWER: Should we say every day?

TEACHER 4: Yes. One or two times each week.

INTERVIEWER: A lot more for teacher work or personal?

TEACHER 4: For both things-personal and work.

INTERVIEWER: Tell me what was it that motivated you to decide to be a teacher?

TEACHER 4: Eh, truly, yes, I told myself like that, as if I was very unsure about choosing to fulfill a job, right? But, thanks to God they gave me the opportunity in the college and I became motivated. (BR) Truly, yes, it motivated me. (Laughs)

INTERVIEWER: Indeed you made the decision because the opportunity came to you?

TEACHER 4: Yes, because also in the last job, I worked with children and I always liked communication. I have wanted always for people to better themselves. It has always interested me, representing more action.

INTERVIEWER: Uhuh. Great. And, have you had some experience that has brought you to this decision?

TEACHER 4: Truly, yes. Lately, no.

INTERVIEWER. And, have you had some experience that has brought you to this decision?

TEACHER 4: Yes, in the last job that came, eh, everything because it was a good group of young people that I took care of and I made the decision to be able to teach and-

INTERVIEWER: Yes, and what about your previous job?

TEACHER 4: Eh, I worked with poor children in a foundation, too.

INTERVIEWER: How nice. Uhuh. In what foundation was it?

TEACHER 4: CFCA.

INTERVIEWER: Oh, really? And, what did you do there?

TEACHER 4: CFCA-Christían Foundation for Children and Aging. (L)

INTERVIEWER: Oh. Hmm.

TEACHER 4: That's their name.

INTERVIEWER: Oh. Hmm. And, what did you do there?

TEACHER 4: I worked as-as a social worker.

INTERVIEWER: Oh, how nice.

TEACHER 4: Yes.

INTERVIEWER: Uhuh.

TEACHER 4: Such it was to visit to see the families, working with the elderly and the children.

INTERVIEWER: And you interviewed them?

TEACHER 4: Yes, interviewing persons if there were possibilities that they could be enrolled in the project, seeing the needs of each one.

INTERVIEWER: Oh. Uhuh. Oh. Great. How interesting. And how long did you work there?

TEACHER 4: Almost six years. Five and a half years.

INTERVIEWER: Oh, really.

TEACHER 4: Uhuh.

INTERVIEWER: Oh, when you had five years (there), that was already a lot.

TEACHER 4: Yes, it was a lot.

INTERVIEWER: Well, understandably you wanted to keep working with them. How nice, really. How beautiful. So, this experience is what made you work so hard, work so hard this-

TEACHER 4: Because since we found families who were very, very needy, we made studies, economy, and for that reason, for all intents and purposes teaching the small children, I know that I can teach.

INTERVIEWER: Oh, yes. Teaching is a beautiful job.

TEACHER 4: Yes.

INTERVIEWER: And, when you use the Internet to develop professionally what concerns have faced you? For example, when you go onto the Internet, what concerns face you?

TEACHER 4: Hmm! Well, up to the moment, I feel that I am doing well. I don't-don't feel that I have encountered any difficulties.

INTERVIEWER: Uhuh.

TEACHER 4: In this way I have know that-

INTERVIEWER: Really. There's been nothing that upon using the machines bothers you?

TEACHER 4: No. Not for the moment, no.

INTERVIEWER: There hasn't been anything. Oh. Oh, how nice. You are getting along?

TEACHER 4: Yes, little by little.

INTERVIEWER: Uhuh. How nice, eh. And, any challenges that have come upon you?

TEACHER 4: For the moment, no.

INTERVIEWER: Oh, when you have used the computer, is it easy for you? It hasn't been difficult?

TEACHER 4: No, for the moment, no.

INTERVIEWER: Is there something that motivates you or even persons that demotivate you about using the Internet?

TEACHER 4: No, I don't encounter them. **Because, even I have said to other companions with children or to my own siblings that I can find any kind of work (information) looking on the Internet.** (B) (Inaudible) Even on there I have found fashions that I think are very beautiful.

INTERVIEWER: It's true.

TEACHER 4: Uhuh. But really beautiful (using it) that way.

INTERVIEWER: Really.

TEACHER 4: It's a very modern system for power to (do things) like this.(1)

INTERVIEWER: So, in this way you have been able to go into many websites.

TEACHER 4: Yes, the truth is, because as is the way of the teachers, to look for dress patterns for weddings, because it is the project they chose, so we have come up her and during classtime we found there, this one about fingernails on the pages that we printed out, so you can make a dress of-

INTERVIEWER: For these two years on the Internet, have you been able to find the things you need?

TEACHER 4: Yes.

INTERVIEWER: How nice, then, and when you go to the Internet, do you go alone or in the company of others?

TEACHER 4: Well, almost (always) alone.

INTERVIEWER: And, tell me of what persons do you ask for help to obtain guidance or skills for doing your job as a teacher?

TEACHER 4: For the moment, whom I almost always ask for a little help is of the teachers who is here in the school **(B)** and of the director **(BR)** who always is always watchful to guide everyone always.

INTERVIEWER: Oh, how nice. And also, of what persons do you ask for help to obtain guidance or skills for using the Internet?

TEACHER 4: Hmm. Truly in whom-when-I feel that it's tough-right? Well, the one in charge of the Internet, uhuh, is who I ask-(IT Technician at the Pavarotti School) **(BR)** is the one that I ask for help, right? He is the expert.

INTERVIEWER: Yes, and to develop yourself professionally via the Internet, do you seek help from people or do you do it independently?

TEACHER 4: Independently.

INTERVIEWER: No one else and you go to see him?

TEACHER 4: Yes, I ask quickly and he advises me what it is I have to do. **(BR)**

INTERVIEWER: So there is no one else? Friend, family member, neighbor or teacher that can help you with the Internet?

TEACHER 4: Hmm. No, he's the only one who has helped me because at times he helps me where to find such and such a page, and says, "Sure, right now you will find it", and he has helped me a lot.

INTERVIEWER: How much of your success in classroom teaching has been due to the help of having the Internet?

TEACHER 4: A lot of success in classes. **(1)**

INTERVIEWER: Like, what have you been able to find?

TEACHER 4: Sentences, conversations, eh-drawings, (inaudible) phrases, vocabulary, verbs, grammar. **(1)**

INTERVIEWER: A lot of things.

TEACHER 4: With one wrong turn you become tied up, too. Uhuh. Yes. At times it has happened with some words that I have not seen and, "Oh! What did I do? What did I do?" **(1)**

INTERVIEWER: What are your educational goals?

TEACHER 4: One of my goals is that young people become interested more in learning a language-not just English-because they ask a lot for more to learn. To become part of them too, right? If it is something they want, they learn. They will become interested on their own. (inaudible)

INTERVIEWER: How can the Internet help you in your goals?

TEACHER 4: Hmm. Exploring.

Interview 6, Female, Middle School Teacher

INTERVIEWER: ¿Qué temas enseña?

TEACHER 6: Yo estoy dando-enseñando Cakchiquel, um-educación para el hogar en los tres grados, ciencias naturales, primero.

INTERVIEWER: Ah, mira, que bien-Que bueno. Y, ¿qué grados enseña?

TEACHER 6: Primero, segundo y tercero básico.

INTERVIEWER: Entonces, tu estas muy relacionado con los jóvenes. Y, ¿al hacer uso del Internet en la escuela Pavarotti, ha sido útil para usted para mejorar como maestro?

TEACHER 6: Para mi, ha sido muy útil. (1) Yo soy una de las que más utilizo el Internet pero aquí, uno que me ha ayudado más investigar de los cursos que he hecho específicamente es de ciencias naturales, um-sobre biología, anatomía, eh-he encontrado allí mucho-allí-eh-leer muchas cosas que allí he encontrado y la dificultad que encuentro es que me cuesta mucho entrar por las tardes en el Internet. En las mañanas cuando aquí está desocupado yo tengo tiempos libres. Entonces, vengo aquí al Internet.

INTERVIEWER: Ah.

TEACHER 6: Me ayuda en la universidad... En mis cursos, Así es que en la universidad- (1)

INTERVIEWER: ¿Qué estas estudiando?

TEACHER 6: Estoy estudiando en los fines de semana, precisamente estoy estudiando allá en Sololá, en la Universidad de San Carlos. (L)

INTERVIEWER: Ah, que bien. Y, ya lo coordina.

TEACHER 6: Y estoy por terminar en pedagogía una licenciatura en aproximadamente un año, así lo hare aproximadamente un año.

INTERVIEWER: Que bien. O sea, en un año saldrá.

TEACHER 6: Si, pero me cuesta, porque tengo dos niñas en mi casa, y el trabajo. Y, verás que me desespero porque mi niña más grande ya cuida mi esposo, y mis papás-mi papá-

INTERVIEWER: Y ustedes.

TEACHER 6: Ellos son los que me animan. Me apoyan. (B)

INTERVIEWER: Entonces, le cuesta algo por sus tareas.

TEACHER 6: Sí, porque me cuesta tiempo, y yo no quiero que ellos sufran por mis estudios, entonces, Sí ellos necesitan algo, yo no quiero que ellos-Entonces, yo trabajaba a las doce de la noche o en la madrugada. Me levanté a las tres de la mañana para sacar un trabajo.

INTERVIEWER: ¿Qué habilidades ha llegado a obtener por medio del Internet?

TEACHER 6: Del Internet yo me he metido en varias páginas, y me gusta estar allí-Estoy allí-en el Internet-y yo quiero entrar nuevas páginas-y las que me dan para investigar. Me gusta la cocina. Yo de allí he sacado varias recetas de cocina-trabajos manuales para las niñas, porque doy el curso de ciencias del hogar-trabajos y manualidades, entonces, y por el tiempo que estamos viviendo ahora a las niñas no les toca mucho los trabajos largos como los tejidos. (1) Me sirvió mucho la hoja (de sitios web) que me dió el profesor el año pasado. (L) (1) Yo me digo Sí yo tuviera los medios necesarios para tener el Internet en mi casa, yo lo pongo. (4)

INTERVIEWER: Um.

TEACHER 6: Porque aquí es muy caro. Es muy caro. (BR) (2) (4) Por ejemplo, cuesta un promedio de-La última vez que pregunte me dijeron que ya esta un poquito más barato pero son como 300 quetzales o 400, mensuales.

INTERVIEWER: ¿Por todo el equipo?

TEACHER 6: No. Con el equipo, creo que con un enganche de mil quetzales por uno-por el Internet-Um-porque estaba-estaba estudiando y como yo no puedo pagar-Si yo lo tuviera, entonces yo trabajaría más tiempo en la noche.

INTERVIEWER: Sí, porque en la tarde, no puedes, ¿verdad?

TEACHER 6: No. No puedo.

INTERVIEWER: Claro, porque Así no tendrías que venir, ¿verdad? Sí, porque en la tarde ya no puedes venir.

TEACHER 6: Sí. Es muy peligroso.

INTERVIEWER: Pero, ¿puedes venir en la mañana?

TEACHER 6: Sí.

INTERVIEWER: Que bueno. ¿Qué otras habilidades has podido desarrollar?

TEACHER 6: De parte del Internet, he sacado muy-provecho de mis estudios en la universidad, pero también de mi preparación personal, por ejemplo cuando quiero cuidar la nena, yo me meto mucho en las páginas de cuidado de bebe.

INTERVIEWER: ¿Has usado para entrar en el correo?

TEACHER 6: Sí. Así, también. El correo ha sido un medio muy importante de-de comunicación. (1)

INTERVIEWER: Um.

TEACHER 6: Porque, por medio de-del Internet, he tenido contacto con varias excompañeras, también información, noticias-Me ha servido mucho. (1)

INTERVIEWER: Que bien, de veras, que bien. Y, ¿Con qué frecuencia lo usas?

TEACHER 6: Eh-Lo utilizo aprox-cuatro horas-tres horas a la semana.

INTERVIEWER: Ah, que bien. Que bien. ¿Tres horas?

TEACHER 6: Tres horas, tal vez, a la semana. Ha habido semanas donde hemos tenido actividades, entonces no he podido usarlo tanto.

INTERVIEWER: Ah, que bien. Entonces, esto es muy bueno. Y, ¿te ha ayudado en tu trabajo como maestro?

TEACHER 6: Sí. Bastante.

INTERVIEWER: ¿Cómo qué cosas has podido sacar?

TEACHER 6: Imágenes.

INTERVIEWER: Platíqueme .

TEACHER 6: Creo que, más de mi, lo que fue como vocación. No sé. Porque tuve buenas maestras como que me estimularon a ser como ellas. Siempre tuve la idea de enseñar.

INTERVIEWER: Ah, que bien. Pero, ¿ha tenido alguna experiencia que lo haya llevado a esa decisión?

TEACHER 6: Especialmente, cuando yo estaba en básico, como 14-15 años.

INTERVIEWER: Um.

TEACHER 6: Estaba allí, en un programa donde me ayudaron, aparte para el pago de mis estudios, porque mis papás no tenían suficiente dinero. **Entonces en este programa, eh-me dieron la oportunidad.** (BR) Cuando me gradué de maestra, trabajé con niños de seis años en preprimaria,

INTERVIEWER: Um.

TEACHER 6: entonces, y allí me dí cuenta que valían nuestro servicio-eh? Me encanto trabajar con los niños, entonces al año siguiente tuve la oportunidad de empezar a trabajar aquí. **Me dijeron, “Mejor sigues estudiando en la universidad para un doctorado de educación”, y el director en este tiempo me animó bastante, por parte del cual me dedique a seguir estudiando.**

INTERVIEWER: Um.

TEACHER 6: **porque el me decía que me iba a servir.** (BR) Que, en los años que vienen, se me va a exigir más educación. Y, ¿cómo ves que hay más competencia? **Y, también, cuando me casé, mi esposo decía, “Segui estudiando”, y eso hace dos años me animaba.** (B)

INTERVIEWER: Um.

TEACHER 6: Entonces, quería seguir estudiando, pero no me alcanzaba en una universidad en aquel tiempo. Era como setecientos, ochocientos mensuales. Entonces, me dice, “Intenta en San Carlos. No cobran tanto.” Pero, San Carlos está poniendo muchas exámenes de admisión, entonces (yo dije), “Voy a intentar este año”, pero la bebita tenía diez meses. Entonces, en un día en la madrugada, fuimos a la capital, y tomé el examen. “Cumples esto”, me dijeron, y ya pasaba a la segunda prueba, pero, Sí no, hasta el otro año. Y, sí me dio la oportunidad-a sorpresa lo gané-Me animé. Me pasaron a la segunda prueba-La gané, y me inscribí.

INTERVIEWER: ¿Cuando usted usa el Internet para desarrollarse profesionalmente, con qué preocupaciones se ha enfrentado?

TEACHER 6: Casi no tanto. **Algunas de las dificultades es en algunos lugares donde he ido, los equipos estan dañados-muy lentos. Hay páginas que no salen. No sé por que.** (3)
(4)

INTERVIEWER: Ah.

TEACHER 6: **Me dan muchos lugares (en el web) donde he ido y es rapido y no sé, que sí hay muchos (así). No se carga o la página está bloqueada pero hay muchas páginas muy interesantes que yo le ha encontrado. Y las mensajes que dicen que ya no puedo entrar y no se porque.** (2)

INTERVIEWER: Ah, entonces, ¿cuáles son los desafíos que le enfrentan para usar el Internet? ¿Además del tiempo hay algún otro desafío?

TEACHER 6: Um. ¿En el Internet? En el momento-Ah, me ha costado a veces las impresiones, por ejemplo, las impresiones de los Internet, incluso (el hecho de que) aquí lo cobran, y es mucho. (BR) (2) (3) Entonces, pero hace poco, me regalaron una memoria, entonces, y también compramos una computadora, entonces así es más fácil.

INTERVIEWER: Que bien. Y, cuando tu vas para usar el Internet, vas sola o acompañada?

TEACHER 6: Voy sola, pero a veces subo con mis compañeras. (B) Pero, a veces, cuando vengo en las tardes, viene mi hijo conmigo y a él le atrae las páginas de niños.

INTERVIEWER: Muy bien. Pero, que bien, que le has introducido al Internet a tu hijo tan chiquito. Si-¿El maneja bien encender, apagar la computadora? ¿Siete u ocho años?

TEACHER 6: siete

INTERVIEWER: Que bueno. Y, por ejemplo, cuando tu enfrentas con un problema del Internet, ¿quién le ha ayudado?

TEACHER 6: (IT technician at the Pavarotti school) (BR) me está ayudando. (El) es el encargado y él-él me ha ayudado muchas veces, incluso me ha dado oportunidades cuando no hay-no hay horario establecido. En este caso, no puedo entrar, pero el me dice, "Entrad y puedes (usar la computadora) aquí." Y, yo digo, "Ah". Sí es que tengo una investigación o sí tengo que revisar cartas, o sí necesito ver mi correo, y él me ha aceptado en muchas ocasiones.

INTERVIEWER: ¿Qué son sus metas educacionales?

TEACHER 6: Mis metas educacionales son-Una de mis metas más grandes es-eh-finalizar mi profesorado que tenemos por graduarnos en una institución privada.

INTERVIEWER: Excelente.

TEACHER 6: Entonces, una de mis metas es tener mis lecciones en el privado-eh-este fin de año, o, a mucho, enero, para graduarme de técnica de profesorado porque mi carrera es profesora de enseñanza media en pedagogía y técnica en administración educativa, y la meta siguiente es terminar la licenciatura.

INTERVIEWER: Que bien.

TEACHER 6: Y, la otra de mis metas es-eligí esta carrera-porque me di cuenta que estar con los alumnos es como estar con otra parte de mi. **Entonces, una de mis metas es seguir trabajando en la educación.**

INTERVIEWER: Y, ¿cómo crees que el Internet le ayuda en sus metas?

TEACHER 6: **Lo que le decía -investigar-y otro que el Internet me ha aliviado muchos gastos-(1)**

INTERVIEWER: Um.

TEACHER 6: **compra de libros y todo.** Entonces creo que va a seguir formando parte de mi investigación-de mi formación, porque muchos trabajos de universidad se hacen por medio del Internet. **Por el Internet, nos ponemos a investigar el tema, nos unimos por el Internet, etc. (1) (L) (B)** Entonces, pienso que (siempre será) una parte de mi siempre-investigación, superacion personal y comunicación. **Y me he dado cuenta que el Internet es muy indispensable en mi profesion (1) y mis companeros de plegaria que solo conozco por nuestro trabajo en linea también, (L)** Y, me he dado cuenta que es necesario tenerlo ahora, no tanto es un lujo sino que una necesidad presente, y sí lo pudiera en mi casa, ¡sería... (laughs) fabuloso! Y, se mejoraría mucho mis estudios y mi trabajo.

Interview 6, Female, Middle School Teacher, English Translation

INTERVIEWER: What subjects do you teach?

TEACHER 6: I am giving-teaching Cakchiquel, hmm-home economics in three grades, natural sciences, first year.

INTERVIEWER: Oh, look, how nice-Great. And, what grades do you teach?

TEACHER 6: Seventh, eighth and ninth grades of middle school.

INTERVIEWER: So, you are very involved with the young people. And, when you make use of the Internet in the Pavarotti school, has it been useful for you to improve as a teacher?

TEACHER 6: For me, it's been useful. (1) I am one of them who uses the Internet more but here, one who has helped me more to look into the courses, that I have done specifically in the natural sciences, hmm-about biology, anatomy, eh-I have found a lot there-there-eh-reading a lot of things that I have found there and the difficulty I encounter is that it's tough for me to go onto the Internet in the afternoons. In the mornings, when its disoccupied here, I have free times. So, I come over here to the Internet.

INTERVIEWER: Oh.

TEACHER 6: It helps me in the university-In my courses, such that in the university-(1)

INTERVIEWER: What are you studying?

TEACHER 6: I am studying on weekends, specifically I am studying over there in Sololá, in the University of San Carlos (satellite campus). (L)

INTERVIEWER: Oh, great. And, you've got it coordinated.

TEACHER 6: And I am about to finish a bachelor's degree in education, in approximately one year, so I'll have it done in approximately one year.

INTERVIEWER: How nice. In other words, in one year you'll come out.

TEACHER 6: Yes, but it's tough for me, because I have two children in my house, and work. And, really I get discouraged because my husband takes care of my oldest daughter, and my parents, my father-

INTERVIEWER: And you all.

TEACHER 6: They are the ones who motivate me. They support me. (B)

INTERVIEWER: So, it's tough for you because of your homework.

TEACHER 6: Yes, because it takes time, and I don't want them to suffer because of my studies, so, if they need something, I don't want that they-So, I worked at twelve at night and in the early morning. I got up at three in the morning in order to finish a job.

INTERVIEWER: What abilities have you managed to obtain by means of the Internet?

TEACHER 6: I have gone into a number of pages on the Internet, and I like to be there-I'm there-on the Internet-and I want to go into new pages-and the ones they give me to investigate. I like cooking. From there I have taken many kitchen recipes-manual projects for the girls, because of the give the home ec course-work and manual activities, so, and with the times we're living in now the girls are given longer jobs too much like weaving. (1) The page (of websites) the professor gave me last year was very useful to me. (L) (1) I say to myself if I had the means necessary to have the Internet in my house, I'd get it. (4)

INTERVIEWER: Hmm.

TEACHER 6: Because here it is very expensive. It's very expensive. (BR) (2) (4) For example, it cost on the average of-The last time that I asked they told me that it's a little cheaper now but it's like 300 or 400 quetzals, monthly.

INTERVIEWER: For all the equipment?

TEACHER 6: No. With the equipment, I believe that with a down payment of one thousand quetzals for one-for the Internet-hmm-because I was-I was studying and since I can't pay-If I had it, then I'd work more hours at night.

INTERVIEWER: Yes, because in the evenings, you can't, right?

TEACHER 6: No, I can't.

INTERVIEWER: Sure, because that way you wouldn't have to come, right? Yes, because in the evenings you can't come.

TEACHER 6: Right. It's very dangerous.

INTERVIEWER: But, can you come in the mornings?

TEACHER 6: Yes.

INTERVIEWER: Great. What other skills have you been able to develop?

TEACHER 6: Through the Internet, I have gotten very-benefit of my studies in the university, but also in my personal preparation, for example, when I want to take care of my baby, I go a lot into the pages about infant care.

INTERVIEWER: Have you used (the Internet) to go into email?

TEACHER 6: Yes. In that way too. The email has been a very important means of-of communication. (1)

INTERVIEWER: Hmm.

TEACHER 6: Because, through the-the Internet, I've had contact with a number of former work companions, also information, news-It's been very beneficial to me. (1)

INTERVIEWER: How nice, really. How nice. And, how often you do use it?

TEACHER 6: Eh-I use it about-four hours-three hours weekly.

INTERVIEWER: Oh, how nice. How nice. Three hours?

TEACHER 6: Three hours, perhaps, weekly. There've been weeks where we've had activities, but I haven't been able to use it so much.

INTERVIEWER: Oh, how nice. So, this is very good. And, have you helped in your work as a teacher?

TEACHER 6: Yes. A lot.

INTERVIEWER: Like, what things have you been able to get out of it?

TEACHER 6: Images.

INTERVIEWER: Tell me.

TEACHER 6: I think that, more than myself, what was as a vocation-I don't know-because I had good teachers since they motivated me to be like them. I always had the idea of teaching.

INTERVIEWER: Oh, how nice. But, have you had an experience that has brought you to this decision?

TEACHER 6: Especially, when I was in middle school, like 14 to 15 years.

INTERVIEWER: Hmm.

TEACHER 6: I was there, in a program where they helped me, apart from paying for my studies, because my parents didn't have enough money. **So, in this program, eh-they gave me the opportunity.** (BR) When I graduated as a teacher, I worked with six-year olds in preprimary,

INTERVIEWER: Hmm.

TEACHER 6: So, and that's where I realized that they value our service-eh? I loved working with the children, so the next year I had the opportunity of beginning to work here. **They told me, "The best thing is that you continue studying in the university to obtain a doctorate in education", and the principal at that time motivated me a great deal, because of which I made the commitment to continue studying,**

INTERVIEWER: Hmm.

TEACHER 6: **because he told me that it was going to be beneficial to me.** (BR) That, in the years to come, more education would be required of me. And, what do you think of it that (now) there's more competition? **And also, when I got married, my husband said, "Keep studying", and that's because two years ago I became motivated.** (B)

INTERVIEWER: Hmm.

TEACHER 6: So, I wanted to keep studying, but I didn't have enough for the university in that time. It was like seven hundred, eight hundred quetzals monthly. So, he said to me, "Try in San Carlos. They don't charge too much." But, San Carlos is setting out a lot of admission exams, so (I said), "I am going to try this year", but the baby was ten months old. So, one day in the early morning, we went to the capital, and I took the example. "Take this", they told me, and next I went on to the next test, but if not, until the next year. And indeed, I opportunity was given to me-what I surprise that I made it-I became motivated. They passed me on to the next test-I won, and I enrolled.

INTERVIEWER: When you use the Internet to develop professionally, with what concerns have you been faced?

TEACHER 6: Practically none at all. **Some of the difficulties is in some places where I've gone, the equipment is damaged-very slow. There are web pages which don't show. I don't know why.** (3) (4)

INTERVIEWER: Oh.

TEACHER 6: **They give me a lot of (web) places where I have gone and it's fast and I don't know if there are many (like that). It doesn't come up or the page is blocked but there are many very interesting pages that I have found. And the messages that say I can't have access and I don't know why.** (2)

INTERVIEWER: Oh, then, what are the challenges that face you for using the Internet? Besides time is there some other challenge?

TEACHER 6: Hmm. On the Internet? For the moment-Oh, print outs have been tough for me at times, for example, print outs from the Internet, including (the fact that) here they charge for them, and it's a lot. (BR) (2) (3) So, but just a while ago, they gave me a memory stick, then, and also we bought a computer, so in this way it is easier.

INTERVIEWER: How nice. And, when you go to use the Internet, do you go alone or in company of others?

TEACHER 6: I go alone, but at times I go upstairs with my (work) companions. (B) But, at times, when I come in the afternoons, my son comes along with me and the children's web pages attract him.

INTERVIEWER: Very good. But, how nice, that you have introduced the Internet to your son at such an early age. Indeed, he can manage to turn on and off the computer? Seven or eight years of age?

TEACHER 6: Seven.

INTERVIEWER: Great. And, for example, when you face a problem related to the Internet, who helps you out?

TEACHER 6: (The IT technician at the Pavarotti school) (BR) is helping me. (He) is in charge there and he-he has helped me many times, including giving me opportunities when there's no-established schedule. In this case, I can't go in, but he tells me, "Come in and you can (use the computer) over here." And I say, "Oh". If it is that I have a research project or if I have to review letters, or if I need to see my email, and he has accepted me on many occasions.

INTERVIEWER: What are your educational goals?

TEACHER 6: My educational goals are-One of my biggest goals is-eh-finishing my professorship that we get by graduating from a private institution.

INTERVIEWER: Excellent.

TEACHER 6: So, one of my goals is to have my lessons in the private-eh-at the end of this year, or, at most, January, to graduate as a professional technician because my career is professor of middle school teaching in education and technician in educational administration, and the next goal after that is to complete the bachelor's degree.

INTERVIEWER: Great.

TEACHER 6: And, the other of my goals is-I chose this career-because I realized that to be with the students is like being with another part of me. **So, one of my goals is to continue working in education.**

INTERVIEWER: And, how do you think that the Internet helps you in your goals?

TEACHER 6: **Like I told you-research-and another thing is the Internet has alleviated me of many expenses-(1)**

INTERVIEWER: Hmm.

TEACHER 6: **buying books and everything.** So I believe that it's going to continue forming a part of my research-of my professional development, because a lot of the work in the university is done over the Internet. **On the Internet, we set out to research the subject, we become united by the Internet, etc. (1) (L) (B)** So, I think that (it will always be) a part of me always-research, personal betterment and communication. **And I have realized that the Internet is very indispensable in my profession, (1)** and (the same for) my prayer companions that I only know through our work together online too. **(L)** And, I have realized that it's necessary to have it now, not so much as a luxury but as a very present necessity, and if I could have it in my house, I would. (laughs) Fabulous! And my studies and my work would improve a lot. **(1)**

Interview 7, Female, Middle School Teacher

INTERVIEWER: Dime, ¿qué grados enseñas?

TEACHER 7: Nivel bachillerato y del secretariado.

INTERVIEWER: Ah, de bachillerato y secretariado.

TEACHER 7: Si, hay una carrera de bachillerato y otro de secretariado.

INTERVIEWER: Ah.

TEACHER 7: Son once cursos, así es que enseño.

INTERVIEWER: Entonces, ¿todas estas, estás enseñando?

TEACHER 7: Tengo dos años en este establecimiento. Entonces, he trabajado como catedrática en otros establecimientos-he sido catedrática en ciencias naturales.

INTERVIEWER: Um.

TEACHER 7: y-y de gramática en inglés, pero-de didáctico y de otra carrera en que de contador-realmente perito contador bilingüe-mi bachillerato va en el mismo tipo de gramática-y imparto las clases de inglés como idioma básico-trae un montón de requisitos.

INTERVIEWER: ¿De veras?

TEACHER 7: Sí.

INTERVIEWER: Al hacer uso del Internet en la escuela Pavarotti, ¿ha sido útil para usted para mejorar como maestro?

TEACHER 7: Para mi, bastante bien-para mi no tengo absolutamente nada que sentir, las clases siempre muy amables, las máquinas siempre van muy bien. (The IT technician at the Pavarotti school nos dice que máquinas va a usar: (BR) "Puedes usar esto" o sí tiene un problema a quien pregunto ayuda-eh, fijate que es una persona muy disponible-siempre muy disponible-no tengo nada que decir-siempre es una persona muy servicial.

INTERVIEWER: Um.

TEACHER 7: y el me ha ayudado.

INTERVIEWER: Que bien, de veras y, ¿qué tal, al hacer uso del Internet en la escuela Pavarotti ha sido útil para usted para mejorar como maestro?

TEACHER 7: Bueno, realmente a mi me ha ayudado mucho, bueno me gustaría que muchos de los compañeros maestros, aparte de entrar en el taller, tuvieron la oportunidad de ingresar y ver como les cambia realmente porque muchas veces lo que el cursillo ya fue ya termino-le hallo que he tenido la oportunidad de entrar a varios sitios-he visto que allí tiene un imagen diferente de que en realidad puede ser. **(1)**

INTERVIEWER: ¿Qué habilidades ha llegado a obtener ahora por medio del Internet?

TEACHER 7: Sí me ha gustado mucho lo que a veces no he podido realizar y yo veo que (el profesor) hace mucho énfasis **(L)** en esta por ejemplo en el “journal” porque en una clase tengo 26 alumnos, y en otro tengo 25 y por ejemplo yo salgo de-un-un bachillerato y voy a otro en las cuatro, eh-es como tiene uno demasiado alumnos y yo así logro por ejemplo conozco a cada uno por nombre.

INTERVIEWER: ¿Con qué frecuencia usa el Internet para ayudarse en su trabajo como maestro?

TEACHER 7: Realmente vengo todos los días miércoles. Por los miércoles yo salgo acá más temprano y los días miércoles yo siempre-generalmente los días miércoles-y la Srta. (otro maestro) casualmente, le digo, casualmente me acompaña a veces porque sus cursos son también (libres) en el día miércoles **(B)**. Luego nos encontramos aquí y algunas veces, que por alguna razón personal no podía venir el miércoles, venía el jueves. **Y, Sí venía un poquito más tiempo por ejemplo una tarea un poco más larga entonces, por ejemplo, “Visite tales páginas”, yo me entretenía mucho en una página y no lograba sacar la tarea. (L)** Entonces, por esto, a veces sí, vine unas dos veces a la semana y me quedaba en el sitio. Cuando tenía que contestar y necesitaba más tiempo, entonces regresaba el próximo día, pero generalmente me venía en el miércoles.

INTERVIEWER: Ah, de acuerdo. Platíqueme que fue lo que la animó a usted decidir ser una maestra.

TEACHER 7: Bueno, en realidad, yo no fui maestra de profesión. Soy contadora pero he trabajado en ya varios años con alumnos. Me gusta el entusiasmo en los alumnos y la capacidad de aprender. Y, me gusta mucho trabajar con ellos porque ellos son el futuro de un país.

INTERVIEWER: ¿Ha tenido alguna influencia que lo haya llevado a esa decisión?

TEACHER 7: (También) pues, en realidad, tal vez es el mismo ambiente en que uno se desenvuelve porque esta-es profesional y hace un trabajo. Y, allí, se relaciona con otros maestros y Sí hay una oportunidad de trabajo es por eso-que uno mismo va-va relacionándose en un campo, prácticamente desarrollándose-relacionándose para trabajar.

INTERVIEWER: ¿Cuándo usted usa el Internet para desarrollarse profesionalmente, con qué preocupaciones se ha enfrentado?

TEACHER 7: Ah, inicialmente me encontré con muchas problemas. ¡Ay! Yo-en la computadora-lo puedo manejar un poquito en el sentido-de que-eh-tal vez el Windows o Microsoft-o copiar o pegar una cosita, pero en el Internet, en realidad, el problema más-grande que encuentro-que he encontrado en realidad es la forma en que los formatos-Pero no creo que son lo formatos, porque cuando uno minimiza la letra a veces el formato viene muy grande y, bien, una a veces está haciendo una traducción pero tiene que ir con la barra para adelante, para atrás, para arriba, para abajo, y eso es lo que a veces le quita a uno-le quita más de tiempo. (3) Otra cosa difícil que me costó mucho tiempo fue, por ejemplo, tenía yo el sitio de Free Translation, pero sí, me sucedió de una vez, (el profesor) me mando de decir cuando yo abre mi correo electrónico, entonces entre directamente a donde estamos trabajando y vi que Free Translation y me tope con cuatro ventanas. (3) (Ahora) cuando hay demasiada lluvia-cuando hay mucha lluvia o hay, digamos, una tormenta eléctrica o así-fíjate Sí usted se queda aquí y entran muchas lluvias, esto afecta un poquito el señal o viene poco lenta. Así, es un problema mecanico. A veces uno entra en un sitio donde realmente no entra la posibilidad de audio-para escuchar o realmente copiar a veces no se puede-hay que pagar una cuota entonces no se puede entrar. (2)

INTERVIEWER: Y, ¿cuánto tiempo tienes usando el Internet?

TEACHER 7: Aquí-en septiembre-Cuando empezamos a entrar (en el curso)-en septiembre, porque antes tal vez ya enviaba algún pequeño mensajito a mi amigo y mi amiga me escribía pero ya para usarlo es de septiembre.

INTERVIEWER: ¡Muy bien! Entonces, has vuelta experta.

TEACHER 7: No. (laughs) No, me cuesta-me cuesta. De la computadora yo admito-yo acepto que no soy gran experto en computación. (3) (4)

INTERVIEWER: Pues, ¿Quién le anima o le desanima para usar el Internet?

TEACHER 7: No, por ejemplo, diría, por ejemplo-Mi esposo es una persona que me ha apoyado siempre. Entonces, me dice, “¿Tienes tu clase de Internet?” Le digo, “Si.”, me dice, “¿Cuánto tiempo vas a tardar?” Le digo, “Bueno, no se-tal vez unas dos-tres horas, pero que a veces vengo a las tres-a veces vengo a las seis. Yo, Sí vengo un día pero me quedo más tiempo. Entonces, el me ha apoyado mucho.” (B) En cuanto a alguien que me desanima-¡No! No.

INTERVIEWER: Entonces, ¿cuándo vas, vas sola o acompañada?

TEACHER 7: No, yo vengo solo. Así es me puedo concentrar.

INTERVIEWER: Dígame a que personas pide usted ayuda para obtener alguna guía o algunas habilidades para hacer mejor tu trabajo como maestro.

TEACHER 7: Pues, en realidad-la realidad aquí en San Lucas-No hay muchos maestros de inglés y el esfuerzo que uno hace por ejemplo es otra vez de libros a la poquita información que usted tiene cuando, por ejemplo, va a trabajar, le da a uno un libro de texto, y, a base del libro de texto, ya guía a uno como hacer sus (lecciones) y así en el Internet he encontrado información más actualizada-(1) información que hacen ver las cosas en una forma diferente, como yo decía en la pronunciación, las graficas, las preguntas, las respuestas-eh-la forma-la visualización del Internet es diferente, pero yo tengo alguien a que consultarle o que pido ayuda, definitivamente no, no tengo.

INTERVIEWER: De acuerdo. ¿A que personas recurre por guía o para obtener habilidades para utilizar el Internet?

TEACHER 7: Ah, si, (names IT tech at Pavarotti CTC) (BR) En alguna vez ya consulte-a veces hay, por ejemplo, unos-unos sitios que utilizan algunos iconos que no son muy comunes, (3) entonces siempre he tratado que alguien me da lugar de enseñarme como resolverlo porque no está en el teclado.

INTERVIEWER: Um. Qué bien, que se ayudo. Entonces cuando usted tiene problemas con el Internet o cuando-entonces, ¿usted sí busca ayuda de personas o lo hace independientemente?

TEACHER 7: Pues, siempre vengo aquí. (BR) Sabemos que es un regalo que nos han dado la fundación-a lo Sí tuviéramos eh-más tiempo, apreciar más horas. Pero del tiempo se uno se limitó.

INTERVIEWER: ¿Cómo le afecta el Internet?

TEACHER 7: Por supuesto sí, porque es muy moderno. (3)

INTERVIEWER: Y, ¿cuáles son sus metas educacionales?

TEACHER 7: Pues, que me gustaría ser una buena maestra, mejorar cada día, ser mejor cada día, es mi meta. Como me gustaría-como maestra, me siento un poco frustrada en el sentido de que yo-yo estoy en diversificado. Fui a la universidad solo como unos 4 semestres y ni siquiera saque un certificado en administración, pero no terminé-por cuestiones personales, ah, por decir por ejemplo, no me arrepiento por hacer otras cosas en mi vida, pero, en realidad, si, me gustaría tener un título universitario. Me gustaría esto. Me gustaría también ver a mi hijo un-un-profesional y, como decía, aprender, eh, me gustaría aprender eh-cosas nuevas-cosas importantes para poder aportar-eh-poder acreditar unos cursos. Tu sabes, no somos de una ciudad-Estamos en un departamento y en una municipalidad donde llega la información con mucha lentitud-Ya le imagina como llega.

INTERVIEWER: ¿Cómo puede el Internet ayudarle en sus metas?

TEACHER 7: Pues, en realidad, quisiera que la juventud salga con un poco más preparación.

INTERVIEWER: Pero, a ti, específicamente, a sus metas, ¿como le ayudaría?

TEACHER 7: ¿Cómo me ayudaría? En la oportunidad que tenemos ahora de poder visitar varias páginas-de poder estudiar. El Internet, yo pienso que me ha ayudado mucho para poder proyectarme más a mis alumnos-que me importan, ellos.

Interview 7, Female, Middle School Teacher, English Translation

INTERVIEWER: Tell me, what grades do you teach?

TEACHER 7: High school and secretary school.

INTERVIEWER: Oh, high school and secretary school.

TEACHER 7: Yes, one career track is high school and the other is secretary school.

INTERVIEWER: Oh.

TEACHER 7: There are eleven courses, that's how it is I teach.

INTERVIEWER: So, you teach all these courses?

TEACHER 7: I have been in this establishment for two years. Then, I have worked as a head professor in other establishments-I have been a head professor in natural sciences.

INTERVIEWER: Hmm.

TEACHER 7: and-and of English grammar, but-in didactics and in another career track of accounting-actually of qualified bilingual accountant. Mi high school career track goes into the same type of grammar-and I teach English classes as a basic language. It carries a mountain of requirements.

INTERVIEWER: Really?

TEACHER 7: Yes.

INTERVIEWER: When you are making use of the Internet in the Pavarotti school, has it been useful for you for improving as a teacher?

TEACHER 7: For me, a lot-For me, I have absolutely nothing to feel bad about. The classes are always very friendly, the machines always operate very well. (The IT technician at the Pavarotti school) tells us which machines he will use. (BR) "You can use this" or if (one) has a problem (he is) to whom I ask help. Eh, you should note that he is a very available person-always very available. I don't have anything bad to say. He is always a very service-oriented person.

INTERVIEWER: Hmm.

TEACHER 7: and he has helped me.

INTERVIEWER: How nice, really. How's it been when you have used the Internet in the Pavarotti school, has it been useful for you to improve as a teacher?

TEACHER 7: Well, really it has helped me a lot. Really, I'd like that many of my teaching companions, apart from coming to the onsite workshop, would have the opportunity to go in (to the Internet) and see how it changes them, really, because once the shorter course was already finished, I find that many times I have had the opportunity to enter into various sites. I have seen that with the other teachers it has a different image of what in reality it could be. (1)

INTERVIEWER: What skills have you managed to obtain now through the Internet?

TEACHER 7: Yes, I have liked it a lot. What I have at times not been able to realize, and I see that (the professor) makes a lot of emphasis (L) in that. For example, in the journal, because in one class I have 26 students, and in another I have 25 and for example I go out of-of a-a high school and I go to another at 4:00 p.m., eh-It's like one has too many students and I in this way I can for example I know each one by name.

INTERVIEWER: How often do you use the Internet to help yourself in your work as a teacher?

TEACHER 7: Really, I come every Wednesday. On Wednesdays, I get out of work near here earlier and on Wednesdays I always-generally on Wednesdays-and Miss (other teacher) by chance, I tell you, by chance accompanies me at times because her courses are also (free) on Wednesdays (B). Pretty regularly we find each other here and sometimes, because for some personal reason I couldn't come on Wednesdays, I came on Thursdays. And, if I came a little more time for example a little longer assignment, then for example, "Visit such and such pages", I lingered more on a page and I didn't manage to finish the assignment. (L) So, because of that at times, yes, I came two times a week and I stayed on the website. When I had to answer and I needed more time, then I returned the next day, but generally, I came on Wednesdays.

INTERVIEWER: Oh, okay. Tell me what it was that motivated you to decide to be a teacher.

TEACHER 7: Well, really, I wasn't a teacher by profession. I am an accountant but I've worked now for a number of years with students. I like the enthusiasm in the students and the capacity for learning. And, I like working with them because they are the future of a country.

INTERVIEWER: Have you had some influence that has brought you to this decision?

TEACHER 7: (Also) the, in reality, perhaps it's the same environment in which one develops because one is-is a professional and does one's work. And, in that, one interacts with other teachers and is there's an opportunity for work it is for that reason- That one goes along interacting with others in a field of work, in actuality developing oneself, interacting with others for work.

INTERVIEWER: When you use the Internet to develop professionally, with what concerns have you been faced?

TEACHER 7: Oh, initially I encountered many problems. Oh! I-on the computer-I can manage a little in the sense-of-eh-perhaps Windows or Microsoft-or copy o paste a little something, but on the Internet, in reality the problem that's most-pressing that I encounter-that I have encountered, in reality, is the way that the formats-But I don't believe that they are formats, because when one minimizes the letters at times the format comes out very large and, well, one, at times is making a translation but has to go the bar to go forward, backward, up, down, and that is what at times takes away from one-it takes away more time. (3) another difficult thing that cost me a lot of time was, for example, when I was on the site Free Translation, but indeed, it happened to me, one time, (the professor) sent a message to tell (about it) when I opened my email, so I entered directly to where we were working and I saw (the message about) Free Translation and I was stuck on four windows. (3) (Now,) when there's too much rain-when there's a lot of rain or, let's say, an electrical storm, o something like that-think about it if you stay there and a lot of rainwater comes in, this affects the signal a bit or it comes in slow. As it is, there is a mechanical problem. At times one enters a website where really there's no possibility of audio-to listen or really copy at times-can't be-one must pay a fee so one can't enter. (2)

INTERVIEWER: And, how long have you been using the Internet?

TEACHER 7: Here, in September-when we began to go (into the course)-in September, because before perhaps I had already sent a short little message to my friend and my friend wrote me back.

INTERVIEWER: Great! So, you've become an expert.

TEACHER 7: No. (laughs) No, it's tough-it's tough. About the computer, I admit-I accept that I am not a great expert in computing. (3) (4)

INTERVIEWER: Well, who motivates or demotivates you for using the Internet?

TEACHER 7: No, for example, I'd say, for example-My husband is a person that has always supported me. So, he tells me, "Do you have Internet class?" I say, "Yes." He tells me, "How much time are you going to be?" I say, "Well, I don't know-perhaps one, two-three hours, but that at times, I come at 3:00 p.m.-at times I come at 6:00 p.m. Me, I come on one day but I saty longer. So, he has supported me a lot. (B) And about if there's someone who demotivates me-No! No.

INTERVIEWER: So, when you go, do you go alone or with people?

TEACHER 7: No, I come on my own. In that way I can concentrate.

INTERVIEWER: Tell me of what persons you seek help to obtain some kind of guidance or some kind of skills to do your work as a teacher.

TEACHER 7: Well, in reality-the reality here in San Lucas-There aren't many English teachers and the effort that one makes for example is, again, from books and the little bit of information that you have when, for example, you go to work, (and) they give one a text book, and, based on the text book, now it guides one how to do one's (lessons) and in that way I've found in the Internet more current information. (1) information that makes one see things in a different way, as I said, in pronunciation, graphics, questions, answers and the way of visualizing the Internet is different, but (if) I have someone to consult or ask help of, definitely no, I don't.

INTERVIEWER: Okay. To what people do you go for guidance or to obtain skills for using the Internet?

TEACHER 7: Oh, indeed, (names IT technician at Pavarotti CTC) (BR) Once I sought help-at times there are, for example, some-hmm-some sites that use icons that aren't very common, (3) so I have always tried to set it up that some one sets Aside time to teach me how to resolve it because it isn't on the keyboard.

INTERVIEWER: Hmm. It's great that you were helped. So, when you have problems with the Internet or when-then you search for help from people or do you go it alone?

TEACHER 7: Well, I always come here. (BR) We know that it's a gift that the foundation has given us-upon which if we should have, eh-more time, to appreciate more hours (online). But, one is limited by time.

INTERVIEWER: How does the Internet affect you?

TEACHER 7: Indeed of course, because it is very modern. (3)

INTERVIEWER: And, what are your educational goals?

TEACHER 7: Well, I'd like to be a good teacher, and improve each day, be better each day, is my goal. How I'd like-as a teacher, I feel a little frustrated in the sense that I-I am at the high school level. I went to the university only maybe four semesters and I didn't even complete a certificate in administration, but I didn't finish-for personal reasons. Oh, let's say, for example, I don't regret having done other things in my life, but, in truth, indeed I'd like to have a university title (degree). I'd like that. I'd like also to see my son as a-a professional and, as I said, learn. Eh, I'd like to learn, eh-new things-important things to be able to put forth-eh-to be able to get credit for some courses. You know, we aren't from a city-We're our in a state and municipality where information arrive pretty slowly-You can just imagine how (late) it arrives.

INTERVIEWER: How can the Internet help you in your goals?

TEACHER 7: Well, in reality, I'd like that the young people would graduate a little more prepared.

INTERVIEWER: But, to you, specifically, in your goals, how would it help you?

TEACHER 7: How would it help me? In the opportunity which we have to visit various web pages-(and) of to be able to study. The Internet, I think has helped me a lot to be able to exert more influence upon my students-because they are important to me, they are.

Interview 17, Male, Fourth Grade Teacher

INTERVIEWER: Quiero agradecerte, (name of teacher), por todo tu tiempo, por todo tu esfuerzo por (hacer) esta entrevista y va a ser de mucho valor y mi primera pregunta es, ¿qué grados enseñas en la escuela?

TEACHER 17: Como es primaria, entonces, cada maestro tiene asignado un grado. En los dos años que he enseñado, que he participado con (el profesor), he trabajado con cuarto los dos años, (inaudible) en una escuela de CNB, y este-este año, me toco estar mi comunidad, entonces, también con el mismo grado-cuarto-grado.

INTERVIEWER: Ah, que bonito. Entonces, le tocó estar en tu comunidad, enseñando?

TEACHER 17: Si, Ajá. Si, muchas gracias.

INTERVIEWER: Esto ha de ser una bonita experiencia, no? ¿Porque allí crecistes, en esa comunidad?

TEACHER 17: Si, en esa, son partes de la historia con ellos, las personas con más compartes.

INTERVIEWER: Que bonito. Que bonita experiencia. Y, ¿cuántos años tienes de maestro?

TEACHER 17: Con este año, voy para cuatro años, trabajando.

INTERVIEWER: Cuatro años.

TEACHER 17: Sí.

INTERVIEWER: Um.

TEACHER 17: Eh, un año en segundo grado y estos tres que son (en) cuarto grado.

INTERVIEWER: Cuarto grado.

TEACHER 17: Um

INTERVIEWER: Muy bien, entonces llevas bastantes añitos como cuarto grado.

TEACHER 17: Sí.

INTERVIEWER: Y, ¿te gusta?

TEACHER 17: Sí, me gusta. Sí, porque, yo siento que-que mi grado es parte fundamental de la primaria y hay mucho que conocer.

INTERVIEWER: Sí.

TEACHER 17: Me gusta tanto enseñando.

INTERVIEWER: Que bueno. Que bien. Y, ¿qué temas enseña con los niños?

TEACHER 17: Pues, entre las dar los cursos, lo fundamental y lo que el curriculum ha (cell phone music interferences) señalado lo que enseñas con los niños, y por donde inglés también he enseñado algunas palabras.

INTERVIEWER: Tengo una pregunta también aquí. ¿Cómo le ha parecido a ti o como le ha salido el usar el Internet aquí en la escuela Pavarotti?

TEACHER 17: Pues, vine unas veces, pero el Internet, como que, me fallaba un poco más (aquí) (4), entonces decidí utilizar en café Internet.

INTERVIEWER: en café Internet.

TEACHER 17: Ya, Ajá. Y, tal vez una dificultad tiene -o, no se, en los café Internet si, abre mi (inaudible)-mi correo, (3) y entonces (inaudible) todo lo que (el profesor) me había mandado.

INTERVIEWER: Ajá. Entonces, cuando tu venías aquí, ¿por alguna manera no se hizo contar?

TEACHER 17: Ajá, eh la otra vez que vine, tuve un permiso por un sábado y (cuando) subimos (B) con otro compañero, (names the IT technician at the Pavarotti school) (BR), y me decía que estaba en una versión-no sé que-Hotmail, entonces no abría Hotmail (3).

INTERVIEWER: Ah, de acuerdo.

TEACHER 17: Sí, pues, entonces. Ahora ya no he venido también siempre. No sé.

INTERVIEWER: ¿Cuándo fue la última vez que veniste?

TEACHER 17: Hubiera sido ya unos meses. Ya no ni he bajado.

INTERVIEWER: Ya. Y, ¿como cuántas veces se le dificultó eso?

TEACHER 17: Unas tres, tal vez.

INTERVIEWER: Unas tres.

TEACHER 17: Ajá.

INTERVIEWER: Y, ¿nunca preguntaste a (names the IT technician at the Pavarotti school) si había una cosa o algo?

TEACHER 17: Si, como le digo, pero la única respuesta que me dio es que estaba en la versión beta o algo así, entonces-algo así.

INTERVIEWER: Y, ¿como qué cosas ha logrado a obtener en el Internet?

TEACHER 17: Pues, aparte de mucha información, relacionada con varios temas que pueden ayudarlo a uno como maestro. Yo siempre busco alguna y otras formas de como compartir con los niños otra experiencia entonces también materiales que aparecen bastantes imágenes, todo esto. Siempre es parte de la formación de uno y es conocimiento que puede compartir con los niños. (1)

INTERVIEWER: Muy bien. Es una fuente de mucha información. Y, ¿qué otras cosas ha podido lograr en el Internet?

TEACHER 17: Um.

INTERVIEWER: Como, comunicarse con correos, ¿verdad?

TEACHER 17: Si, correos, también. Hay hace poco fue algo que tenía la curiosidad siempre aparecía, pero, nunca había entrado allí, es muy útil, digo yo, demasiado. Entonces, también el Messenger—

INTERVIEWER: Messenger-

TEACHER 17: Muy bueno, ¿eh?

INTERVIEWER: Que bueno. ¿Entonces, has experimentado varias cosas con el Internet?

TEACHER 17: Ajá.

INTERVIEWER: Que bueno. Como, ¿qué tan frecuentemente utilizas el Internet?

TEACHER 17: ¿Yo? Tal vez, unas dos veces a la semana.

INTERVIEWER: Dos veces por semana. Que bien, que bueno.

TEACHER 17: Lo utilizo y-.

INTERVIEWER: Lo utilizas bastante. Que bueno-Que bueno que sí. ¿Eh, y cuantas veces lo usa en tu trabajo como maestro?

TEACHER 17: Sería como, una hora casi diaria, porque en mayor parte son dos días a la semana para lo que es información que me sirve compartir a los niños o que al mismo

tiempo yo no tengo seguro. Entonces como otras personas que saben de esto entonces yo los comparto entonces, pues, casi la mayor parte. (4)

INTERVIEWER: ¿La mayor parte de tu tiempo?

TEACHER 17: Ajá.

INTERVIEWER: Ah, que bien. Platíqueme que fue lo que animó a usted decidir ser maestro.

TEACHER 17: Pues, tenía otra alternativa, o tenía otra meta, pero, como en nuestro medio, eh, muy, muy pobre sería entonces, mi papá me apoyo bastante en esto. Entonces, decidí participar y-y-y-ver como es el trabajo que desempeña un maestro, aunque siempre venía (a la escuela). También he admirado mucho los maestros. No olvido aquellos maestros que me dejaron buenas enseñanzas y aquí siempre crea estudiar para ser maestro y me gusta-me gusta y es algo que me agrada compartir con los niños también porque antes de meterme en esta carrera, tuve una experiencia. Estaba estudiando en tercero básico cuando llegaron unos padres de familia conmigo (B) y me decían que-que posibilidades había que yo apoyara a sus hijos en formación cristiana y yo les decía que Sí fui a trabajar con los niños unos meses, unos cinco meses y con otros compañeros y me gusto bastante y de allí al siguiente año era empezar la carrera y dije “Yo voy a empezar de maestro de una vez”, y entonces me gustó bastante y sí, me gusta.

INTERVIEWER: Entonces, ¿que esto es lo que le motivó a tomar la decisión?

TEACHER 17: Ajá. Bien. Estas experiencias que tuve y-

INTERVIEWER: Sí, y, ¿qué influencia ha tenido que le haya llevado a ser maestro, y qué otra influencia ha tenido, o sea, la influencia de otros maestros?

TEACHER 17: Sí, y la forma de compartir con los alumnos de allá, porque son-me acuerdo mucho mi maestro de padre como quería decir, y compartía mucho, y como que a uno lo anima, ajá, seguir adelante. Siendo nos, en mi caso, pues en la comunidad, somos muy pocos que hemos terminado alguna carrera-de allá, como unos seis, tal vez-(5) sí, ah, muy pocos-bien. Muchos han llegado-muchos han llegado en la primaria-De allá, yo no sé.

INTERVIEWER: Y, ¿Cómo se llama tu comunidad?

TEACHER 17: (names the community)

INTERVIEWER: Y, ¿cuántas familias hay?

TEACHER 17: Ay, no podía decirte una cantidad pero hay 170 familias-160 familias, por allí-por allí. Ajá, ajá.

INTERVIEWER: Y reconozco que hay seis que han logrado una carrera.

TEACHER 17: Seis, Ajá.

INTERVIEWER: Y, ¿por qué cree que falta esto?

TEACHER 17: Pues, tal vez, la comunidad no tiene mucho por estar-ubicada ahora en este lugar-que esta. Que, los últimos años, eh-estuvimos en una finca, y en la finca prácticamente uno ya grande es por va a entrar a trabajar por más parte ser jornalero en la finca y muchos de ellos así-así les ha pasado en vida porque-Yo no he llegado a recorrer una educación más alta, por ejemplo, uno termina el-ya teniendo la edad suficiente-entra a trabajar como parte de la finca. **En cambio, mi papá, que es agricultor, el tuvo otra visión por nosotros (B)**, y lo planteó muy bien y me dijo que Sí eramos (inaudible) y estudiando, que así (salieramos) muy bien. Es un cambio en el papel del padre que se propone esto, porque es un sacrificio muy grande.

INTERVIEWER: Si, me imagino.

TEACHER 17: Muy grande, y a la vez, uno comparte este sacrificio con ellos también, entonces somos muy pocos y todo lo que hacemos es para la comunidad-para la comunidad también.

INTERVIEWER: Ah, de acuerdo. Y, usted ha mencionado que con todo que tenía la opción de otra carrera.

TEACHER 17: Sí. **Al menos tenía una vision de seguir otra carrera antes.**

INTERVIEWER: ¿Cuál era?

TEACHER 17: **Era de un bachillerato porque mi-mi tío había terminado el bachillerato, (B) entonces se iba a estar en la universidad, entonces decía, ‘Tenéis esta opción pero-usted elija y en la carrera.’, pero como que este es-eh-me motivo más esta experiencia que tuve con los niños en la fe-en la carrera.**

INTERVIEWER: Que bien, y ¿cuándo usted usa el Internet para desarrollarse profesionalmente con que preocupaciones se ha enfrentado? Por ejemplo, usted me dice que ha ido dos veces a buscar material, cuando haces esto, ¿con qué preocupaciones se ha enfrentado?

TEACHER 17: **Pues, tal vez la preocupación es, por ejemplo, no he encontrado el asunto que necesito, entonces, gracias a Dios, muchas cosas he-he aprendido, entonces y lo valoro mucho, porque no igual a ir a una biblioteca y buscar un libro, y entonces, en cambio, solo allí en un clic tienes la información de varios autores, entonces es un almacén-una fuente. (1)**

INTERVIEWER: Entonces, ¿qué desafíos se han presentado cuando usted ha intentado usar el Internet? O, ¿alguna preocupación, algún-

TEACHER 17: Hay sitios, también, por ejemplo, el no saber muy bien el Internet, discuta mucho, no? Porque a veces, salen algunas ventanas allí, en-en el Internet-entonces, uno no sabe que hacer, pero-(3)

INTERVIEWER: Hay que (analizar), verdad?

TEACHER 17: Sí. Ajá. Así es.

TEACHER 1: Ah, que bien, que bien. ¿Quién le anima y quien le desanima para usar el Internet?

TEACHER 17: Pues, lo que me anima es que todo lo que tiene bastante bueno y-muchas cosas son como que los llevo en práctica y comparto con mis hermanos, también. A veces, les digo, “Si quiere-quiere aprender un poquito de lo que yo soy, siempre estoy dispuesto para enseñarles también porque Así es-mi-Lo que me desanima es a veces no hay mucha señal, entonces uno espera y espera allí, como que esto es lo único que me desanima. (3)

INTERVIEWER: Sí-Más cuando llueve, ¿Sí?

TEACHER 17: ¡Sí! Y, cuando está nublado, es imposible. Ya.

INTERVIEWER: Vaya.

TEACHER 17: Si, muchas veces solo. Pero, también muchas veces acompañado, como mis primos, que también han terminado una carrera, entonces saben más que yo diría, entonces ayudan ellos también. (BR)

INTERVIEWER: Si, ayudan. Que bien. Ah, Dígame a que personas pides ayuda para obtener alguna guía o algunas habilidades para hacer mejor tu trabajo como maestro.

TEACHER 17: Um, a veces entre compañeros nos ayudamos. (B) Esta vez estaba ya en mi comunidad pero la mayor parte del personal somos de la misma edad, entonces yo vaya a decirles, entonces yo voy con-siempre les pido ayuda a los compañeros con que vengo aquí en-en la carretera de San Lucas, por ejemplo, con (other teacher) y con otros maestros, por decir, es que-que siempre le dan la mano-para aprender nuevas cosas uno.

INTERVIEWER: Que bien, y, ¿a qué personas recurre por guía o para obtener habilidades para utilizar el Internet?

TEACHER 17: Ajá.

INTERVIEWER: ¿No es allí a que usted refiere?

TEACHER 17: Si, Ajá. Pero, casi no he bajado aquí. Aquí-Como uno quiere dar no puede, tampoco. (2)

INTERVIEWER: ¿Cómo estaba ocupado?

TEACHER 17: No-No estaba ocupado, pero como que el sistema no funcionaba-Entonces de allí, el (director del centro de computo) también quiso arreglarlo pero no pudo. (3) (BR)

INTERVIEWER: Um.

TEACHER 17: Siempre.

INTERVIEWER: Ah, de acuerdo-Y, ¿qué otras personas le ayudan con el Internet cuando le atorras?

TEACHER 17: Al menos, como yo ya he cursado del-del-del que-Trabajan la computadora, entonces yo siempre pido a mi instructora. (BR)

INTERVIEWER: Vaya.

TEACHER 17: Lo que no puedo también, siempre llego con ellos y-vaya-

INTERVIEWER: Eh, de acuerdo.

TEACHER 17: Ajá.

INTERVIEWER: Ajá, y, de la escuela es, ah-

TEACHER 17: No-Es un centro que está aquí en San Lucas, porque a mi, se me disculpa mucho, pero en la computadora antes andaba mucho computadora, pero mi hermano ya se ha graduado de la universidad, y ya el recibió el curso de la computación, (5) entonces era como un reto para mi también, (B) según esto entonces siempre he seguido los pasos también-Ajá.

INTERVIEWER: Que bien. Ah. Y, ¿para desarrollarse profesionalmente, a través del Internet, buscas ayuda de personas o lo hace independientemente?

TEACHER 17: Pues, siempre hay acompañado de alguien que le ayuda a uno, como uno de por Sí no puede hacer todo uno-eh. (B)

INTERVIEWER: Eh, bien. Y, ¿qué son sus metas educacionales?

TEACHER 17: Pues, mi meta sería terminar la carrera que ya empezaba y tal vez un sueño más grande es el inglés.

INTERVIEWER: Um.

TEACHER 17: El inglés es el sueño que he tenido desde mi juventud.

INTERVIEWER: ¿Tu juventud?

TEACHER 17: Sí. Este es el sueño. Desde que empecé (como maestro), (names another teacher)-el año pasado, me acuerdo muy bien, cuando primer-primer-la primera vez estas clases cuando vino (other teacher) y yo preguntaba por lo compañeros y, “¿Dónde está (names the teacher)?” “Se fueron a un taller”, decían. Llego en la tarde y dijo (other teacher), “¿No va a ir? ¿No quieres ir?” “¿A qué?”, digo. “¿A un taller de inglés?” Sin decir todo, y yo-“¡Yo voy a ir! ¡Yo voy a convencer al director para irnos!”, porque era lo que más que ansía en mis sueños, diría, porque siempre he deseado aprender inglés. (B) Y, yo le decía a mi papá, “Yo quiero aprender. Yo quiero aprender.” Pero, no podía porque el único sitio que me enseñan está-está en la cabecera, entonces me costaba mucho. Entonces, yo decía, “Esta es una oportunidad que no puedes desaprovechar. Nunca hay de esto.” A veces uno se ahoga con sus propios sueños y yo le decía a mi hermano, “¿Cómo se puede hacer con inglés? ¿Quién me puede ayudar? ¿Quién me puede ayudar?”, dije- Pero a veces, uno de por si-no puede encontrar la ayuda aquí. Es como un sueño hecho realidad.

INTERVIEWER: Si, de plano. Y, tengo una pregunta más. ¿En sus metas educacionales, como puede el Internet ayudarte en sus metas?

TEACHER 17: Pues, de por si, desde el año pasado, está pasando, ha ayudado bastante con los sitios (inaudible) que mandó el profesor. (L) He podido aprender muchas cosas de allí, entonces es como acortar los pasos para la meta (de aprender el inglés).

Interview 17, Male, Fourth Grade Teacher, English Translation

INTERVIEWER: I want to thank you, (name of teacher), for all of your time, for all of your effort for (making) this interview and it will be of great value and my first question is what grades you teach in school.

TEACHER 17: How elementary school is, then, each teacher has an assigned grade. In the two years I've been teaching, in which I have participated with (the professor), I have worked with fourth the two years, (inaudible) in a CNB school (basic curriculum school), and this-this year, I ended up in this community, so, also with the same grade-fourth.

INTERVIEWER: Oh, how nice. So, you ended up in your own community, teaching?

TEACHER 17: Yes. Uhuh. Indeed, thank you very much.

INTERVIEWER: This must have been a beautiful experience, huh, because, you grew up there, in that community?

TEACHER 17: Yes, in that one, they are parts of one's history with them, the people with whom you share the most.

INTERVIEWER: How beautiful. What a beautiful experience. And how many years have you been a teacher?

TEACHER 17: This year I am going on four years, working.

INTERVIEWER: Four years?

TEACHER 17: Yes.

INTERVIEWER: Hmm.

TEACHER 17: Eh, one year in second grade and three years that are (in) fourth grade.

INTERVIEWER: Fourth grade.

TEACHER 17: Hmm.

INTERVIEWER: Very good, so you have accumulated a lot of little years in fourth grade.

TEACHER 17: Yes.

INTERVIEWER: And, you like it?

TEACHER 17: Yes, I like it. Yes, because I feel that-that my grade is a fundamental part of elementary school and there's a lot to know.

INTERVIEWER: Indeed.

TEACHER 17: I like teaching so much.

INTERVIEWER: How nice. How good. And, what subjects do you teach with the children?

TEACHER 17: Well, between giving the course subjects, the most fundamental and what is the curriculum (cell phone music interferes) showing what you teach with the children, and where English comes in also I have taught some words.

INTERVIEWER: I have a question also here. How has it seemed to you or how has it worked out for you to use the Internet here in the Pavarotti school?

TEACHER 17: Well, I came a few times, but the Internet, it's like it failed on me a little more (here) (4), so I decided to use it in the Internet café.

INTERVIEWER: in the Internet café?

TEACHER 17: Yes, uhuh. And, perhaps one challenge that has-or, I don't know, in the Internet cafes if it opens my (inaudible)-my email. (3) and so (inaudible) all that (the professor) had sent to me.

INTERVIEWER: Uhuh. So, when you came here, in one way or another it didn't work out for you?

TEACHER 17: Uhuh, eh-the other time I came, I had permission for a Saturday and (when) we went up (B) with another companion, (names the IT technician at the Pavarotti school) (BR), and he told me that he was in another version-I don't know what-Hotmail, so Hotmail didn't open (3).

INTERVIEWER: Oh, okay.

TEACHER 17: Yes, then, so. Now also I haven't been coming here lately. I don't know.

INTERVIEWER: When's the last time that you came?

TEACHER 17: It would have been a few months now. I haven't even come down here any more.

INTERVIEWER: Right. And, about how many times did you this present a difficulty to you?

TEACHER 17: About three, maybe.

INTERVIEWER: About three?

TEACHER 17: Uhuh.

INTERVIEWER: And, you new asked (the IT technician at the Pavarotti school) if there was something or other wrong?

TEACHER 17: Yes, like I'm telling you, but the only answer that he gave me is that it was in the Beta version, or something like that, so-something like that.

INTERVIEWER: And, such as what things have you managed to obtain on the Internet?

TEACHER 17: Well, besides a lot of information, related to a variety of subjects that can help one as a teacher. I always look for one or another ways of how to share with the children other experiences so also materials where a lot of images appear and all that. After all, it is part of one's development and is knowledge that one can share with the children. (1)

INTERVIEWER: Very good. It's a source of a lot of information. And, what other things have you been able to achieve on the Internet?

TEACHER 17: Hmm.

INTERVIEWER: Like, communicating via email, right?

TEACHER 17: Yes, emails, also. Just a little while ago it was something that had my curiosity. It always appeared there, but I never had entered in there. I say it's very useful, way too much. Then, also Messenger-

INTERVIEWER: Messenger?

TEACHER 17: Really good, huh?

INTERVIEWER: Great, so you've experienced various things on the Internet?

TEACHER 17: Uhuh.

INTERVIEWER: Great. Like, how frequently do you use the Internet?

TEACHER 17: Me? Perhaps, maybe twice each week.

INTERVIEWER: Twice weekly. How good, great.

TEACHER 17: I use it and-

INTERVIEWER: You use it a lot. Great-Great, indeed. Eh-and how many times do you use it in your job as a teacher?

TEACHER 17: It would be like, one hour almost every day, because most of the time it's two days of the week for what would be information that is useful to me to share with the children or at the same time I don't have surety. So, like others that know about this, so do I share, well, the greater part of it. (4)

INTERVIEWER: The greater part of your time?

TEACHER 17: Uhuh.

INTERVIEWER: Oh, great. Tell me what it was that encouraged you to decide to become a teacher.

TEACHER 17: Well, I had another alternative, or I had another goal, but, since in our, eh, very, very poor environment, as it was so, my father supported me a lot in this. So, I decided to participate and-and-and-see how a teacher's work is carried out, although I always came (to school). Also I have admired teachers a lot. I don't forget about those teachers that gave me good teachings and here I was raised to be a teacher and I like-I like it and it's something that makes me feel good-to share with children, also because before I got into this profession, I had an experience. I was studying in third grade (middle school, ninth grade) when some parents came to me (B) and they said what-what possibilities were there that I could help their children in Christian upbringing and I said to them that indeed I would go to work with children a few months, some five months and with other companions and I liked it a lot and from there on the next year I began my career and I said, "I am going to start being a teacher right now", and so I liked it a lot and I still like it.

INTERVIEWER: So, that's what motivated you to become a teacher?

TEACHER 17: Uhuh. Right. These experiences that I had and-

INTERVIEWER: Yes, and what influences have you had that have brought you to be a teacher, and what other influence have you had, in other words, the influence of other teachers?

TEACHER 17: Yes, and the way of sharing with the students over there, because they are-I remember a lot my teacher like a father as I liked to say, and I shared a lot with him, and since he motivates one, uhuh, to continue on. Being us, in my house, well in the community, we are just a few that have completed a course of study-from there, we are six, maybe-(5) yes, uh, very few-right. Many have arrived-many have arrived at the elementary school-From there, I don't know.

INTERVIEWER: And, what's the name of your community?

TEACHER 17: (names the community)

INTERVIEWER: And, how many families are there?

TEACHER 17: Oh, I couldn't tell you a number but there are 170 families-160 families, out there-out there. Uhuh. Uhuh.

INTERVIEWER: And I recognize that there are six who completed a course of study (vocational career).

TEACHER 17: Six, uhuh.

INTERVIEWER: And, why do you think that there aren't more?

TEACHER 17: Well, perhaps, the community hasn't been located in this place for very long. Since, the last few years-eh, we were on a plantation, and on the plantation practically anyone already grown up is there to go in to work for the most part to be a field worker on the plantation and many of them like this-like this it has happened to them in their life because-I haven't been able to go through a higher education, for example, one completes the-already having enough age-goes in to work as a member of the plantation. **In contrast, my papá, who is a farmer, he had another vision for us, (B)** and he set it in us very well and he told me that we were (inaudible) and studying, and even like that (we came out) very well. It is a change of role of the father that this represents, because it is a big sacrifice.

INTERVIEWER: Yes, I imagine.

TEACHER 17: A very big (sacrifice), and at the same time, one shares this sacrifice with them too, so we are few and all that we do is for the community-for the community, also.

INTERVIEWER: Oh, okay. And, you've mentioned that with all of this you had the option for another career?

TEACHER 17: Yes. **At least I had a vision of following another career, before.**

INTERVIEWER: What is it?

TEACHER 17: **It is a high school vocational degree because my-my uncle had finished high school, (B) so he was going to be at the university, then said (to me) "You have this option, but-you choose about this and about your career", but it's like this is-eh-it motivated me more, this experience that I had with the children in the faith-in the career.**

INTERVIEWER: Great, and when you use the Internet to develop professionally, with what concerns have you been faced? For example, you tell me that you've gone (into the

Internet) to look for material, (and) when you do this, with what concerns have you been faced?

TEACHER 17: Well, perhaps the worry is, for example, I've not found the item that I need, so, thanks to God, many times I've-I've learned, then and I value it a lot, because it's not the same as going to a library and looking for a book, and then, in contrast, there just in a click you have the information from various authors, so it's a storehouse-a resource. (1)

INTERVIEWER: So, what challenges have been presented to you when you've tried to use the Internet? Or, some concerns, some-

TEACHER 17: There are sites, also, for example, not knowing very well the Internet, causes a lot of confusion, right? Because at times, some windows appear there in-in the Internet-so, one doesn't know what to do but-(3)

INTERVIEWER: One has to (analyze), right?

TEACHER 17: Yes, uhuh. That's it.

TEACHER 1: Oh, good, good. Who motivates or demotivates you for using the Internet?

TEACHER 17: Well, what motivates me is that everything that's there is really good and-many thing are, like, things I put into practice, and I share with my brothers, too. At times, I say, "If you want-you want to learn a little about what I am, I'm always available to teach you also because that's how it is-my-What demotivates me at times (is) lack of signal, so one is waiting and waiting there, so like this is the only thing that demotivates me. (3)

INTERVIEWER: Yes-more when it rains, right?

TEACHER 17: Yes! And when it's cloudy, it's impossible. Yeah.

INTERVIEWER: Wow.

TEACHER 17: Yes, many times alone. But, also many times going with others, like my cousins, they too have completed a degree, so they know more than I, I'd say, so they help too. (BR)

INTERVIEWER: They indeed help. How nice. Oh, tell me of what people you ask for help to obtain some guidance or some skills to do your work better as a teacher.

TEACHER 17: Hmm, at times, among (work) companions, we help each other. (B) This time I was already in my community but the greater part of us employees are of the same age, so I would go to tell them, so I go with-I always ask my companions with whom I

come here on-on the highway to San Lucas, for example, with (other teacher) and with other teachers, let's say, it's that-that they always help one to learn new things.

INTERVIEWER: Very nice, and to what people do you go for guidance or to obtain skills for using the Internet?

TEACHER 17: Yeah.

INTERVIEWER: Wasn't it them over there that you were referring to?

TEACHER 17: Yes, uhuh. But I have practically never come down here (Pavarotti School CTC). Here-Even as one wants to give, one can't either. **(2)**

INTERVIEWER: How were you occupied?

TEACHER 17: I wasn't-wasn't occupied, but since the system wasn't functioning-So from then on, (the CTC director) also wanted to fix it, but couldn't. **(3) (BR)**

INTERVIEWER: Hmm.

TEACHER 17: Always (or, "That's how it turned out.").

INTERVIEWER: Oh, okay-And, what other people help you with the Internet when you get stuck?

TEACHER 17: At least, as I have gone over the-the-the what-They make the computer function, then I always ask the instructor. **(BR)**

INTERVIEWER: Good going.

TEACHER 17: What I can't also, I always come over with them and-wow-

INTERVIEWER: Eh, okay.

TEACHER 17: Uhuh.

INTERVIEWER: Uhuh, and at the school it's, uh-

TEACHER 17: No-It's a center that's here in San Lucas, because for me, you are going to excuse me a lot please, but on the computer, before, well I was on the computer a lot, but my brother had already graduated, from the university, and he already received the computing course, **(5)** so it was like a challenge for me too, **(B)** according to this, then I've always followed his steps too-uhuh.

INTERVIEWER: Great. Oh. And, to develop professionally, through the Internet, do you seek help from people or do you go it alone?

TEACHER 17: Well, it's always (good) to be accompanied by someone who helps, since one on their own can't do it all-eh. (B)

INTERVIEWER: Eh, great. And what are your educational goals?

TEACHER 17: Well, my goal would be to complete the program that I began, and perhaps the greatest dream is English.

INTERVIEWER: Hmm.

TEACHER 17: (Learning) English is the dream I have carried with me since my youth.

INTERVIEWER: Your youth?

TEACHER 17: Yes. This is the dream. Ever since I began (as a teacher), (other teacher), last year, I remember very well, when first-the first time these classes when (another teacher) came and I asked among my (teaching) companions and (said), "Where is (names other teacher)?" "She went to a workshop", they said. She came back in the afternoon and (she) said, "Won't you go? Don't you want to go?" "To what?", I say. "To an English class." Before she could say everything, I (said), "I'm going! I'll convince the principal so we can go (together)!" because that's what I had most longed for in my dreams, I'd say because I've always wanted to learn English. (B) I said to my papá, "I want to learn. I want to learn." But, I couldn't because the only site where they teach me is-is at the headquarters, so that cost me a lot (to get there). Then, I said (to myself), "This is an opportunity I can't throw away. There's never (an opportunity) like this." At times one drowns in their own dreams, and I said to my brother, "How can I make do with English? Who can help me? Who can help me?", I said... But at times, as it is, one can't get help here. (This) is like a dream made real.

INTERVIEWER: Yes, of course. And, I have one more question. In your educational goals, how can the Internet help you in your goals?

TEACHER 17: Well, as it is, since last year, this one that passed, a lot of the sites that (the professor) has sent have helped me. (L) I've been able to learn many things there, so it's like shortening the steps toward the goal (of learning English).

APPENDIX B:

FOLLOW-UP MEETING MINUTES, FUNDACION RIGOBERTA MENCHU TUM

Spanish-Language Original Version Only

AYUDA DE MEMORIA

REUNIÓN CON MAESTROS INTERESADOS EN EL CURSO DE INGLÉS

Wielman Cifuentes

Guatemala, 26 de agosto de 2008

Fecha: San Lucas Toliman, 26 de agosto de 2009. Centro educativo Pavarotti. Hora: 15:30

Registro de participantes

Nombres y apellidos	Escuela	Email	Horario	días
Héctor Leonel García Raxtún	Instituto municipal tecnológico Luqueño	<u>corredores10_@yahoo.com</u> Cel 58692341	11INFORMANT 4:00-15:00	Miércoles
Francisco Ajpuac Mazat	Instituto municipal tecnológico Luqueño	Cel 51193646	18:00-19:00	miércoles
Carmen Lidia de León	Colegio integral tolimán	<u>carmenlidia2625@hotmai.com</u> Cel. 59606194 77220184	15:30- 11INFORMANT 6:30	miércoles
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PUNTOS DE AGENDA: INICIO DEL 2º CURSO DE INGLÉS EN LÍNEA

1.-Curso de inglés en línea; 2.-Acreditación del curso y determinación de horarios; 3.-Acuerdos generales

DESARROLLO DE LA AGENDA

1.-Curso en línea: Se dio la bienvenida a los participantes y se les explicó que la Fundación Rigoberta Menchú Tum conjuntamente con el investigador, Douglas Tedford, se ha propuesto iniciar con el segundo curso de inglés, el 1 de septiembre. El curso será puesto en línea desde donde cada participante podrá participar en el proceso formativo. El requisito que se pide para participar es tener voluntad y como mínimo una hora libre a la semana para poder hacer las tareas que desde el curso se le Asigne. Para el curso, la FRMT pondrá a disposición el centro comunitario digital y un técnico que servirá como tutor para el uso del internet. Sr. Douglas Tedford funcionará en el papel de tutor-profesor. Para ambas entidades los recursos que se ponen a disposición tienen un costo, pese a ello, el curso en línea se servirá a ningún costo, por lo que se espera que pueda ser aprovechado por los maestros y maestras de San Lucas Tolimán, ya que es a ellos que se quiere llegar para incidir en una mejor educación. Se tienen pláticas con el Ministerio de Educación a través del Licenciado Angel Letona para ver si ellos pueden también dar su aval para poder acreditar el curso mediante un diplomado. La FRMT contactará con la Universidad de San Carlos para ver si ellos pueden acreditar el curso como un diplomado y que a su vez sea impulsado por la FRMT/ Douglas Tedford, la USAC y el propio Ministerio de Educación. El curso en línea tendrá dos enfoques, uno de ellos estará dirigido a fortalecer las técnicas para enseñar inglés y el otro, en técnicas para aprender el inglés. Son dos procesos complementarios y roles que en algún momento del docente-alumno lo desempeñará. Es por ello que el curso ofrecerá una diversidad de sitios web donde se tendrá la oportunidad de explorar y alcanzar los aprendizajes objetivos.

2.-Acreditación del curso y determinación de horarios

Como ya se abordó en el punto anterior, la FRMT tomará contacto con la Universidad de San Carlos, USAC para exponerle el trabajo educativo en línea que se ha venido desarrollando desde hace más de dos años. Esto se hará con el fin de lograr que la USAC

acredite los estudios y que el curso favorezca a los maestros tanto para su escalafón como para mejorar su situación económica, dado que también podrá tener otras oportunidades de empleo. También se sabe que el Mineduc actualmente está exigiendo a los docentes de 6to. primaria tener la competencia para la enseñanza del inglés, por lo que el curso ayudará a alcanzar éste perfil que se exige. En cuanto a los horarios se sugirió dejar dos fijos a la semana, esto ayudará al técnico Heber Pérez organizarse mejor y atender a los estudiantes que lleguen a usar el internet del centro. Hasta ahora, los participantes coinciden en Asístir el miércoles, en un horario de 4:30 a 19:00 horas, según el formato de registro de Asistencia y horario que aparece en la primera página. Si bien es cierto que fijar dos días a la semana puede ayudar, también se comentó dejar abierto los horarios y que al final de la primera semana de septiembre se verá cuantos interesados hay en el curso y luego se organizará una reunión la siguiente semana para hacer ajustes a los horarios. En cuanto a la experiencia del primer curso, una participante expresó haber aprendido mucho de inglés y didáctica. Ella animó a los nuevos participantes a que se sumen al curso y a la vez les exhortó a no retirarse en las primeras dificultades que se tengan, ya que a veces se regresa cansado luego de la actividad docente, pero al final se tiene la satisfacción de llegar a la meta propuesta. Comentó que el método es muy efectivo además de ser dinámico e importante, pues siempre en cada clase semanal hay lecciones interesantes y esto ha sido algo que ella valora mucho del curso 1. Por otro lado comentó que el método de autoevaluación es un método muy eficaz ya que no solo permite medir el aprendizaje sino formarse también para la honestidad, autoestima y autovaloración como persona. Los tres participantes que asistieron comentaron que tienen interés en conocer alguna metodología que les permita atender varios grados a la vez, ya que algunos de ellos son maestros multigrados y conocer alguna metodología podría mejorar también su atención hacia los niños y niñas. Se comentó sobre la importancia de estudiar o no en tiempos de vacaciones, es decir entre los meses de noviembre y diciembre. Como ya se había hablado con el Sr. Tedford sobre la necesidad de adaptar el ciclo del curso en línea al ciclo educativo guatemalteco, los participantes opinaron que es mejor continuar con el mismo horario y ciclo. Ya que en octubre y noviembre que tienen

menos tarea docente, la podrían aprovechar para asistir con más frecuencia al internet. No obstante se acordó que como el centro educativo deja sus labores administrativas en diciembre será éste único mes que se pueda descansar, ya que son también las vacaciones que por ley les corresponde a los docentes del centro y lo mejor sería también respetar el mes de descanso. En el primer diplomado se tuvo la limitante que no todos los maestros tienen pericia para el manejo de la computadora, por lo que el profesor Heber Pérez, ayudará a algunos maestros que lo requieran al igual que algunos compañeros más experimentados. Es decir, se verá quienes de los participantes son más habilidosos para el manejo de la computadora y se le Asignará a un participante para que siempre le pueda ayudar. Finalmente se comentó que sería interesante que la FRMT y Douglas Tedford pudieran otorgar un diploma por haber concluido el primer curso de inglés. Ya que algunos de ellos han comentado sobre dichos estudios pero no les creen porque no tienen un diploma que compruebe que han cursado el curso de inglés. Se dijo que este diploma lo expeditará la FRMT y Douglas Tedford. La FRMT hará una propuesta y luego se buscará que el Sr. Tedford lo pueda firmar.

3.-Acuerdos Generales

1. La FRMT contactará a la USAC para que acredite el curso de inglés 2008-2009 como un diplomado en inglés.
2. Se abrirá la semana del 1 al 5 de septiembre para que se puedan escribir nuevos docentes. Al final de la semana se hará una evaluación para afinar los horarios en que se utilizará el internet en el centro Pavarotti.
3. El curso de inglés se inicia el 1 de septiembre.
4. Aprovechar los meses de octubre, noviembre y enero para la formación. Los maestros están dispuestos a tomar sus clases en línea con más frecuencia y dedicarán más horas.
5. Osbaldo hablará con el Lic. Angel Letona para ver si pueden acreditar también el diplomado.
6. El profesor Heber Pérez llevará un registro de la asistencia de los participantes. Se adjunta un cuadro modelo. El cual cada participante debe firmar los días que asista.

APPENDIX C:

REPRODUCTION OF CHART OF REPRESENTATIVE TEACHER STATEMENTS

Spanish, with English Translation

Actitudes del Internet

El Internet es fuente maravillosa de información.

El Internet es bueno para mis hijos.

Es un reto positivo aprender usar el Internet.

Es un reto positivo aprender de computadoras.

Quiero aprender todo lo que puedo.

No veo ninguna ventaja de usar el Internet.

Tocar un botón provocara danos.

Me es confuso ver las pantallas e iconos.

Me falta experiencia con el Internet.

Soy inepto(a).

Es necesario saber el ingles para usarlo.

El uso del Internet no me interesa ni me anima.

Siento ansioso(a) del Internet y no se como comenzar.

No entiendo los mensajes de alerta.

Siento vergüenza con los demás observándome en el telecentro.

Attitudes about the Internet

The Internet is a marvelous source of information.

The Internet is good for my children.

Learning to use the Internet is a positive challenge.

Learning to use computers is a positive challenge.

I want to learn all that I can.

I don't see any advantage in using the Internet.

Touching a button will cause damage.

The screens and the icons confuse me.

I lack experience with the Internet.

I am inept.

It is necessary to know English to use it.

Using the Internet doesn't interest or motivate me.

I feel anxious about the Internet and don't know how to begin.

I don't understand the alert messages.

I feel ashamed with others observing me in the telecenter.

Metas profesionales

Quiero promover el éxito de los alumnos que enseño.
Quiero aprender el inglés.
Quiero progresar por estudiar en línea.
Quiero mejorar para que me sigan empleando.
La distancia de un telecentro me causa dificultades.
El costo del Internet café o servicio en casa es demasiado alto para mí.
No voy a seguir como maestro mucho más.
Me voy a jubilar pronto.
No tengo tiempo para superarme.
Me dicen que una mujer no debe tener metas profesionales.

Professional Goals

I want to promote the success of the students I teach.
I want to learn English.
I want to progress by studying on line.
I want to improve myself so others will continue to keep me employed.
The distance to get to a telecenter (CTC) creates difficulties for me.
The cost of the Internet café or home service is too high for me.
I am not going to continue as a teacher too much longer.
I am going to retire soon.
I don't have time to better myself.
Others tell me that a woman shouldn't have professional goals.

Influencias sociales al uso del Internet

El técnico me da la atención personalizada.
 Tome un curso que me ayudaba orientarme.
 Mi esposo(a) (pariente, amigo[a]) me lo explica.
 El maestro del curso me oriente o me anima.
 La administradora del curso me anima.
 Mi familia dice que mi responsabilidad es atender a ellos.
 Mi esposo(a) dice que no debo o no puedo participar.
 Tengo otros cometidos que tengo que cumplir.
 Arreglo mi horario para asistir con un grupo.
 Voy solo en las horas que tengo disponibles.
 El Internet no es parte de mi vida y cometidos.
 Mi familia me burla o me critica por querer estudiar.
 No me siento bienvenido cuando llego.
 Prefiero ir con alguien que tiene Internet en casa.
 No me siento apoyado cuando asisto.
 No entiendo cuando me explican las cosas.
 El horario del telecentro no concuerda con el mio.
 Los horarios del telecentro se cambian sin avisarme.

Social Influences upon Internet Usage

The technician gives me personalized attention.
 I took a course that helped me to orient myself.
 My spouse (relative, friend) explains it to me.
 The course teacher guides me or motivates me.
 The course administrator motivates me.
 My family says that my responsibility is to take care of them.
 My spouse tells me I should not or cannot participate.
 I have other commitments that I have to fulfill.
 I arrange my schedule to attend with a group.
 I go alone at the times that I have available.
 The Internet is not part of my life and commitments.
 My family ridicules me or criticizes me for wanting to study.
 I don't feel comfortable when I arrive.
 I prefer to go with someone who has Internet at home.
 I don't feel supported when I attend.
 I don't understand when they explain things to me.
 The schedule of the telecenter (CTC) does not concur with mine.
 The schedules of the telecenter (CTC) change without notifying me.

APPENDIX D:

CERTIFICATE OF RESEARCHER SPANISH FLUENCY

Texas Oral Proficiency Test

Spanish 8+ (Native, Near-Native Fluency)

Douglas Tedford, 1999

TEXAS ORAL PROFICIENCY TEST™

Report of Performance

DOUGLAS H. TEDFORD
200 WEST HILLSIDE #309
LAREDO, TX 78041

Test Date: June 19, 1999
Test Field: Spanish

Examinee #: 10548448
SSN: 496-68-4071

Minimum Score Required to Pass: 6
Your Performance: 8+
Status: Pass

Your oral proficiency sample shows that you have met the passing standard for the TOPT. The State Board for Educator Certification established the minimum level of oral proficiency required for an entry-level educator to perform successfully in Texas schools based upon recommendations of committees of Texas educators. To pass the TOPT, you must obtain a total score of "6" or higher. Refer to the reverse side of this report for more information about how to interpret your score.

Your performance has been reported to:

State Board for Educator Certification

NATIONAL EVALUATION SYSTEMS, INC.™

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APPENDIX E:

SEMI-STRUCTURED INTERVIEW QUESTIONS

Segmented Versions of Original Interview Questions

Spanish, with English Translations

Interview Question 1. Tell me about the influences which caused you to become a school teacher, and the concerns which you have experienced regarding use of the Internet for professional development.

- Platiqueme que fue lo que lo animó a usted decider ser un maestro. (Tell me what it was that motivated you to decide to become a teacher.)
- ¿Ha tenido alguna influencia o experiencia que lo haya llevado a esa decisión? (Have you had a certain influence or experience that brought you to that decisión?)
- Cuando usted usa el Internet para desarrollarse profesionalmente, ¿con qué preocupaciones se ha enfrentado? (When you use the Internet to develop professionally, with what concerns have you been faced?)

Interview Question 2. Tell me about people who you turn to for help, skills or guidance to persist and achieve your goals for teaching and for using the Internet.

- Dime a que personas pide usted ayuda para obtener alguna guía para hacer mejor tu trabajo como maestro. (Tell me of what persons do you ask help to get some guidance for doing your job better as a teacher.)
- ¿A qué personas recurre por guía o para obtener habilidades para utilizar el Internet? (To what persons do you go for guidance or to get skills for using the Internet?)

Interview Question 3. What grade levels and subjects do you teach and how necessary or useful do you perceive using the Internet at the Pavarotti school for

enhancing your school teaching? How often do you use the Internet for professional development and what are the fundamental reasons for this?

- ¿Qué grados enseña y qué temas enseña? (What grades and subjects do you teach?)
- ¿Al hacer uso del Internet en la escuela Pavarotti, ha sido útil para usted para mejorar como maestro? (By making use of the Internet in the Pavarotti school, has it been useful to you for improving as a teacher?)
- ¿Qué habilidades ha llegado a obtener ahora? (What skills have you acquired now?)
- ¿Con que frecuencia usa el Internet para ayudarse en su trabajo como maestro? (How often do you use the Internet to help yourself in your work as a teacher?)
- ¿Por qué razón? (For what reason?)

Interview Question 4. Tell me who you turn to for help, skills, or guidance to persist and achieve goals using the Internet for professional development, or if you are more of an independent learner.

- Para desarrollarse profesionalmente a través del Internet, buscas ayuda de personas o lo hace independientemente? (To develop yourself professionally via the Internet, do you seek help of people or do you do it independently?)

Interview Question 5. How much of what you achieve in the classroom is due to using the Internet, and how prepared do you feel to apply what you achieve in the

classroom? How useful do you think the Internet will be in the future to you and to teachers like you in other locations?

- ¿Cuánto de su éxito al enseñar en clase se debe a la ayuda del Internet?
(How much of your success in teaching comes from the help you get from the Internet?)
- ¿Cuando usted pone en practica en el salón de clase lo aprendido en el Internet, que tan preparado se siente? (When you put into practice in the classroom what is learned on the Internet, how prepared do you feel?)
- ¿Piensa usted que le Internet será útil en el futuro para usted y para maestros semejantes a usted en otros lugares? (Do you think the Internet will be useful in the future for you and for teachers like you in other places?)
- ¿Cuáles son sus metas educacionales y como puede el Internet ayudarle en sus metas? (What are your educational goals and how can the Internet help you in your goals?)

APPENDIX F:
CONSENT FORM, PARTICIPANT
Spanish, with English Translation

COMPROBANTE DE CONSENTIMIENTO DEL PARTICIPANTE 4.5.08

Spanish Translation of Consent Form for Participant 4.5.08

Note: Only this version of the consent form was signed by the participant.

Usted esta invitado participar en una investigación academica del por que si o no utiliza usted el Internet para desarrollarse profesionalmente. Fue escogido usted a participar porque usted participó en un taller pedagógico de tres días en enero 2007 y/o julio 2007, y porque usted fue invitado después a participar en un programa de desarrollo profesional en línea. Por favor, lea usted este comprobante y pregunte cualquier cosa que desee antes de ponerse de acuerdo formar parte de esta investigación.

Esta entrevista es conducido por Douglas Tedford, un estudiante doctoral en la Universidad de Walden, y también labora en calidad de consultante voluntario en la Fundación Rigoberta Menchú Tum.

Datos básicos:

El propósito de esta entrevista es aprender acerca de sus experiencias respeto al buscar y recibir ayuda para usar el Internet en el desarrollo profesional como maestro.

Procedimientos:

Si esta usted de acuerdo, se le va a pedir participar en una entrevista audio-grabada, de duración no mas de 50 minutos. También, se le va a invitar asistir a una reunión de entrevista en grupo y una comida celebratoria en el 1º de julio, 2008, en el Centro Educativo Luciano Pavarotti, en San Lucas Toliman, Guatemala. Su presencia en aquella reunión es deseada pero no requerida, si es que no puede usted asistir debido a los cometidos laborales.

Naturaleza voluntaria de la entrevista:

Su participación en esta entrevista es voluntaria. Esto significa que todos respetaran su decisión de si desea o no estar en la entrevista. Ninguna persona en la Fundación Rigoberta Menchú Tum le tratará diferentemente si usted decide no estar en la entrevista. Si decide unirse a la entrevista ahora, usted puede cambiar de opinión después. Si usted siente presionado durante la entrevista, puede usted parar la entrevista cuando le parece conveniente. Usted puede saltar a las preguntas que usted considera demasiado personales.

Riesgos y beneficios de participar en la entrevista:

Existe un riesgo mínimo de presión psicológico durante esta entrevista. Si usted se siente presionado durante la entrevista, usted puede parar en cualquier momento. Posiblemente esta entrevista le beneficiará por motivarle a contemplar los desafíos que usted enfrenta por usar el Internet para el desarrollo profesional, y las personas que usted busca o podría buscar en tipo de apoyo para utilizar el Internet. El entrevistador disfrutará de ganar nueva información acerca de cómo apoyar a los maestros para utilizar el Internet en el aprendizaje en línea.

Compensación:

Al concluir la primera entrevista usted será compensada con materiales pedagógicos bilingües con un valor equivalente a 30 dólares estadounidenses (\$30.00) o mas.

Confidencialidad:

Se guardará en estado confidencial toda información que usted provee. El investigador no usará su información por propósitos fuera de los fines de este proyecto de entrevistas. También, el investigador no

incluirá su nombre o cualquier otro dato que podría identificarle en algún reporte relacionado con esta entrevista. Su nombre como participante en las entrevistas no se revelará en la reunión de entrevista de grupo que se llevará a cabo en el día 1° de julio, y si usted asiste, ningunas de sus respuestas de la entrevista anterior le serán atribuidas.

Contactos y preguntas:

El nombre del investigador es Douglas Tedford. La asesora de la facultad del investigador es la Dra. MaryFriend Shepard. Usted puede presentar ahora las preguntas que tiene. O, si tiene usted preguntas mas tarde, usted puede contactar al investigador por medio del correo electrónico douglastedford@gmail.com o en (956) 763-9205. Usted también puede ponerse en contacto con la Dra. Shepard en (229) 227-0240 o por maryfriend.shepard@waldenu.edu. Si usted desea hablar confidencialmente acerca de sus derechos como participante, usted puede llamar a Dr. Leilani Endicott. Ella es la directora del centro de investigación en la Universidad de Walden. Su teléfono es 1-800-925-3368, extensión 1210.

El investigador le dará una copia de este comprobante para que usted la puede guardar.

Declaración de consentimiento:

He leído la información que precede esta declaración. He recibido las respuestas a las preguntas que tengo en el actual. Tengo 18 años o mas, y doy mi consentimiento de participar en esta entrevista.

Nombre completo del
participante en letra de
molde:

Firma o firma electrónica*
del participante:

Firma o firma electrónica*
del investigador:

Las firmas electrónicas son reguladas por el acta uniforme de transacciones electrónicas. Legalmente, una “firma electrónica” puede presentarse en forma del nombre mecanografiado de la persona, o su correo electrónico, u otro marcador que identifica a la persona. Una firma electrónica es tan valido como una firma redactada personalmente en el caso de que los dos participantes están de acuerdo de llevar a cabo la transacción en forma electrónica.

CONSENT FORM FOR PARTICIPANT 4.5.08

*Note: English version of this form is for reference only.
Only the Spanish translation of this form was signed by the participant.*

You are invited to take part in a research study of why you do or do not choose to use the Internet for professional development. You were chosen for the study because you participated in a three-day teacher workshop in January 2007 and/or July 2007 and because you were invited to participate in an online professional development program after that. Please read this form and ask any questions you have before agreeing to be part of the study.

This interview is being conducted by Douglas Tedford, who is a doctoral student at Walden University, and a volunteer educational consultant for the Fundación Rigoberta Menchú Tum.

Background Information:

The purpose of this study is to learn about your experiences seeking and receiving help to use the Internet for professional development as a teacher.

Procedures:

If you agree, you will be asked to participate in a tape-recorded interview, lasting up to 50 minutes. You will also be invited to attend a group interview meeting and dinner celebration on July 1, 2008 at the Centro Educativo Luciano Pavarotti, in San Lucas Toliman, Guatemala. Your presence at that meeting is desired but not required, if you cannot make it due to work commitments.

Voluntary Nature of the Interview:

Your participation in this interview is voluntary. This means that everyone will respect your decision of whether or not you want to be in the interview. No one at the Menchú Foundation will treat you differently if you decide not to be in the interview. If you decide to join the interview now, you can still change your mind later. If you feel stressed during the interview, you may stop at any time. You may skip any questions that you feel are too personal.

Risks and Benefits of Being in the Interview:

There is the minimal risk of psychological stress during this interview. If you feel stressed during the interview, you may stop at any time. This interview may possibly benefit you by encouraging you to think about the challenges you face in using the Internet for professional development and about the people you seek out or could seek out for support to use the Internet. The interviewer will benefit by gaining new information about how to support teachers to use the Internet for online learning.

Compensation:

At the conclusion of the first interview you will be compensated with bilingual teacher materials equivalent to a value of thirty U.S. dollars (\$30.00) or more.

Confidentiality:

Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this interview project. Also, the researcher will not include your name or anything else that could identify you in any reports of the interview. Your name as a participant in the interviews will not be revealed at the group interview meeting on July 1, and if you attend none of your answers from the previous interview will be attributed to you.

Contacts and Questions:

The researcher's name is Douglas Tedford. The researcher's faculty advisor is Dr. MaryFriend Shepard. You may ask any questions you have now. Or if you have questions later, you may contact the researcher via douglastedford@gmail.com or at (956) 763-9205. You may also contact Dr. Shepard at (229) 227-0240 or maryfriend.shepard@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Director of the Research Center at Walden University. Her phone number is 1-800-925-3368, extension 1210.

The researcher will give you a copy of this form to keep.

Statement of Consent:

I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the interview.

Printed Name of Participant

Participant's Written or
Electronic* Signature

Researcher's Written or
Electronic* Signature

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.

APPENDIX G:
CONFIDENTIALITY AGREEMENT, RESEARCH ASSISTANT
Spanish, with English Translation

ACUERDO DE CONFIDENCIALIDAD

Nombre y apellido del firmante: Rebeca Chavez Zaldivar

Durante el transcurso de mi actividad en recolectar datos de ésta investigación, “Influencias del capital social sobre el uso del Internet por maestros de inglés de Guatemala rural para desarrollarse profesionalmente”, tendré acceso a la información, la cual es confidencial y no debe de ser revelada. Reconozco que la información tiene que mantenerse confidencial, y que la revelación incorrecta de la información confidencial lleva la potencial de dañar al participante.

Por firmar este Acuerdo de Confidencialidad, reconozco y confirmo que:

1. No revelaré ni discutiré cualquier información confidencial con otros, incluso amigos y familiares.
2. En ninguna forma divulgaré, copiaré, venderé, prestaré, alteré o destruiré cualquier información confidencial a menos que me es autorizado de manera apropiada.
3. No discutiré de información confidencial donde otros pueden percatarse de la conversación. Entiendo que no es aceptable discutir de la información confidencial aun cuando no se utiliza el nombre del participante.
4. No haré transmisiones, peticiones de información, modificaciones o depuraciones de la información confidencial.
5. Confirmando que mis obligaciones por medio de este acuerdo continuarán después de finalizar el trabajo que voy a llevar a cabo.
6. Entiendo que la violación de este acuerdo llevará implicaciones legales.
7. Solo tomaré acceso o utilizaré sistemas o máquinas de las cuales se me ha autorizado y no demostraré la operación o función de sistemas o máquinas a los individuos no autorizados.

Por firmar este documento, reconozco que he leído el acuerdo y que confirmo mi acuerdo de cumplir con todos los términos y las condiciones declaradas en este documento.

Firma Electrónica: *Rebeca Chavez Zaldivar* Fecha: 12 de abril, 2008-04-12
rebecachavezzaldivar@gmail.com

CONFIDENTIALITY AGREEMENT

Name of Signer: REBECA CHAVEZ ZALDIVAR (see Spanish version)

During the course of my activity in collecting data for this research: “Social Capital Influences Upon Internet Usage of Rural Guatemalan English Teachers”, I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant’s name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I’m officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature: SEE SPANISH VERSION OF DOCUMENT ABOVE

APPENDIX H:

LETTER OF COOPERATION, FUNDACION RIGOBERTA MENCHU TUM

Spanish, with English Translation



Guatemala, 11 de enero de 2008.

Señores:

Institutional Review Board:

Esta carta consta que la Fundación Rigoberta Menchú Tum, como colaborador comunitario en el área de San Lucas Tolimán, departamento de Solola, Guatemala, apoya plenamente los planes del investigador, Douglas Hudson Tedford, M.S.Ed., para desarrollo su estudio, "Influencias del capital social en la utilización del Internet por maestros de inglés de Guatemala rural para desarrollarse profesionalmente".

Este estudio contribuirá en forma significativa a los planes de la Fundación para implementar sistemas de estudios en línea que involucraran a maestros rurales de Guatemala. Es muy preciso apoyar este estudio, que clarificara los medios sociales más necesarios para fomentar y alentar la participación de dichos maestros, tan claves al desarrollo socioeconómico de la región.

Antemano, agradecemos su fina atención a esta recomendación, esperando que los procedimientos necesarios para la realización de la investigación del Sr. Tedford se finalizaran en forma acelerada, permitiendo su estudio durante el verano de 2008, como ha sido programado. Antemano, agradecemos su consideración, y su apoyo.

Translation:

This letter affirms that the Rigoberta Menchú Foundation, as a community partner in San Lucas Tolimán, Solola, Guatemala, fully supports the plans of researcher Douglas Hudson Tedford, M.S.Ed., for development of his study, "Influences of Social Capital upon Internet Usage of Rural Guatemalan English Teachers for Professional Development".

This study will significantly contribute to the Foundation's plans for implementing online educational systems that involve rural Guatemalan teachers. It is essential to support this study, which will clarify the social supports most necessary for fomenting and encouraging the participation of these teachers, who are so key to the socioeconomic development of the region.

In advance, we thank you for your kind attention to this letter of support, hoping the procedures necessary for the realization of Mr. Tedford's research will be finalized swiftly, permitting his study during the summer of 2008, as has been planned. In advance, we thank you for your consideration, and for your support.


 Paúl Menchú

 Director Adjunto RIGOBERTA MENCHU TUM

Fundación Rigoberta Menchú Tum

APPENDIX I:

MEETING AGENDA, PERMANENT-GROUP INTERVIEW

July 1, 2008/ Sr. Wielman Cifuentes

Spanish, with English Translation

Reunión de entrevista en grupo (PGI)

Temario

San Lucas Toliman, Guatemala
Martes, 1o de julio, 2008, 17:00 – 21:00 horas
Centro Educativo Luciano Pavarotti

Director de la reunión: Wielman Cifuentes wcifuentes@frmt.org

17:00	Bienvenida	Wielman Cifuentes
	Presentaciones	Todos
17:20	Orientacion al estudio	Wielman Cifuentes
17:40	Pautas del estudio	Douglas Tedford
17:50	Como trabajar en grupos	Wielman Cifuentes
18:00	Actividades en grupos	Todos
19:00	Reflección del grupo	Todos
19:45	Resumen	Wielman Cifuentes
20:00	Cena	

Permanent-Group Interview (PGI)

Agenda

San Lucas Toliman, Guatemala
Tuesday, July 1st, 2008 5:00 – 9:00 p.m.
Centro Educativo Luciano Pavarotti

Meeting Director: Wielman Cifuentes wcifuentes@frmt.org

5:00	Welcome	Wielman Cifuentes
	Introductions	All
5:20	Orientation to the study	Wielman Cifuentes
5:40	Key points of the study	Douglas Tedford
5:50	How to work in groups	Wielman Cifuentes
6:00	Group work	All
7:00	Group reflection	All
7:45	Summary	Wielman Cifuentes
8:00	Dinner	

APPENDIX J:
REPRODUCTION OF PERMANENT-GROUP INTERVIEW FINDINGS
Spanish, with English Translation

(Group 1)

No. 1

Metas profesionales

Soluciones

1. Tener nuestra autoestima +
2. Organizarnos para alcanzar nuestras metas como personas y profesionales para ser ejem.

Actitudes

1. Tener confianza en si mismo para superar barreras
2. Perder el miedo ante al tecnología porque debemos actualizarnos.

Influencias Sociales

1. Como mujeres como “sujetos” de cambio y no objetos decorativos ni de servicio
2. Tenemos una familia y nos debemos a ella para ser cada día mejor.

English Translation:

(Group 1)

No. 1

Professional Goals

Solutions

1. *Have high self-esteem*
2. *Organize ourselves to reach our goals as persons and professionals to be an example*

Attitudes

1. *Have confidence in oneself to overcome barriers*
2. *Lose fear of technology because we should update ourselves.*

Social Influences

1. *As women, we are “subjects” of change and no decorative objects nor for service*
2. *We have a family and we are beholden to the family to be better each day.*

(Group 2)

Grupo #2

“Metas”

Quiero aprender todo lo que puedo. Aprender el idioma ingles y computación (INTERNET) para mejorar e enriquecer mi conocimiento.

“Actitudes”

Quiero mejorarme para que me sigan empleando. Aprendiendo ingles, internet, dado que no entiendo de ello. Acoplando mi horario al curso, Venciendo asi todos los estereotipos.

“Influencias Sociales”

Ser concientes y perseverantes en las oportunidades que se nos ofrecen para superar en el aprendizaje, y que las oportunidades sean equitativos sgun la constitución de la Republica no importando edades.

English Translation:

(Group 2)

Group #2

“Goals”

I want to learn all that I can. Learn the English language and computers (INTERNET) to improve and enrich my knowledge.

“Attitudes”

I want to improve myself so that they will continue to employ me. Learning English, internet (sp.), given that I don't understand it. Molding my schedule to the course. Overcoming in this way all stereotypes.

“Social Influences”

(For us) to be conscientious and persevering in opportunities which they offer us to excel in learning, and that opportunities should be equitable according to the constitution of the Republic not accounting for ages.

(Group 3)**Metas Profesionales**

*> Tener voluntad organizando el tiempo para poder superarme.

*> No tener límites ni obstáculos para superarme no importando edad, sexo, religión o diferentes etnias.

Actitudes

*>Asistir a talleres de motivación y aprendizaje para conocer sobre las ventajas de la tecnología.

Influencias Sociales

*> Tener voluntad, decisión propia, buena comunicación con la familia para poder superarme y alcanzar el éxito.

*>Establecer un horario en el Establecimiento donde se imparten las clases, respetarlo para obtener los conocimientos necesarios para ser personas de éxito.

English Translation:***(Group 3)******Professional Goals***

**>Have willpower organizing time to be able to better myself*

**> No have limits nor obstacles to better myself independent of age, gender, religion or differences in ethnicity*

Attitudes

**>Attend workshops for motivation and learning to know about the advantages of technology.*

Social Influences

**> Have willpower, personal decision, good communication with the family to be able to better myself and reach success.*

**>Establish a schedule in the Establishment where classes are imparted, observe it to obtain the knowledge which is necessary for people of success.*

(Group 4, page 1)

(METAS PROFESIONALES)

POSITIVOS “Quiero promover el éxito de los alumnos que enseno.” *Utilizando la tecnología* “Quiero progresar por estudiar en línea.” *Para estar actualizado participando en talleres.* “Quiero mejorarme para que me siguen empleando.”

NEGATIVOS “Me dicen que una mujer no debe de aspirar.” *Promoviendo la participación de la mujer a través de talleres educativos.* “El costo del Internet café es demasiado alto para mi.” *Establecer convenio con entre autoridades educativas y dueños de café Internet para un descuento especial.*

ACTITUDES

POSITIVOS “El Internet es fuente maravillosa de información.” “Es un reto positivo aprender usar el Internet.” “Es un reto positivo aprender de computadora.”

NEGATIVOS “No veo la ventaja de usar el Internet.” “No tengo experiencia con el Internet.” “Usar el Internet no me interesa ni me anima.” *Orientarse en cursos de Internet.*

English Translation:

(Grupo 4, page 1)

(PROFESSIONAL GOALS)

POSITIVES “I want to promote the success of students.” *Using technology.* “I want to progress by studying on line.” *To become updated by participating in workshops.* “I want to better myself so that they will continue to employ me.”

NEGATIVES “They tell me that a woman should not have aspirations.” *Promoting the participation of women through educational workshops.* “The cost of the Internet café is too high.” *Establish an agreement between educational authorities and owners of Internet cafes for a special discount.*

ATTITUDES

POSITIVES “The Internet is a marvelous source of information.” “It is a positive challenge to learn to use the Internet.” “It is a positive challenge to learn to use computers.”

NEGATIVES “I don’t see the advantage of using the Internet.” “I don’t have experience with the Internet.” “The Internet neither interests nor motivates me.” *Orient oneself in Internet courses.*

(Group 4, page 2)

INFLUENCIAS SOCIALES

POSITIVOS “El maestro del curso me orienta o me anima.” “Tome un curso que me ayuda orientarme.” “La administradora del curso me anima.”

NEGATIVOS “Mi familia dice que mi responsabilidad es atender a ellos.” “No me siento apoyado cuando asisto.” “Mi conyuge me dice que no debo o no puedo participar.”
Convencer a la familia de la importancia del Internet. Y programar un horario adecuado.

English Translation:

(Group 4, page 2)

SOCIAL INFLUENCES

POSITIVES “The course teacher guides me or motivates me.” “I took a course that helps to guide me.”
“The course administrator motivates me.”

NEGATIVES “My family says that my job is to take care of them.” “I don’t feel supported when I attend.”
“My spouse tells me I shouldn’t or I can’t participate.” *Convince the family of the importance of the Internet. And set an adequate schedule.*

(Group 5, page 1)

METAS PROFESIONALES

LOGROS “Quiero aprender el inglés.” Inscribirse en un curso. “Quiero progresar por estudiar en línea.” Asistir continuamente a un café Internet. “Quiero promover el éxito de los alumnos.” Compartir, repartir experiencias adquiridas **DIFICULTADES** “El costo del Internet café es prohibitivo.” El costo no es motivo justificado por que es accesible al bolsillo de... “No tengo tiempo para superarme.” Si hay voluntad el dinero no es un factor limitante. Se puede acondicionar. “La distancia del telecentro me desalienta.” En la actualidad existen suficientes medios de transporte.

ACTITUDES

LOGROS “Quiero aprender todo lo que puedo.” Investigando en línea. “Es un reto positivo aprender de computadoras.” Si es un reto porque es indispensable. “El Internet es fuente maravillosa de información.” Sí, mantiene informado y actualizado. “Es necesario saber el inglés para usarlo.” Es necesario saberlo, pero también hablarlo, escribirlo y leerlo. **DIFICULTADES** “No tengo experiencia con el Internet.” La experiencia se adquiere con la práctica y persistencia. “Soy inepto(a) acerca del Internet.” La práctica hace el maestro. “Tocar un botón en error provoca daños.” Consultar. “No entiendo mensajes de alerta.” Aprender a utilizar el correo electrónico.

English Translation:

(Group 5, page 1)

PROFESSIONAL GOALS

ACHIEVEMENTS “I want to learn English.” Sign up for a course. “I want to progress by studying on line.” Continuously attend an Internet café. “I want to promote the success of the students.” Share and spread acquired experiences. **DIFFICULTIES** “The cost of the Internet café is too high.” Cost is not a justifiable motive because it is accessible to the pocketbook of... “I don’t have time to better myself.” When there is willpower, money is not a limiting factor. One can make adjustments. “The distance from the telecenter (CTC) discourages me.” Today there are sufficient means of transport.

ATTITUDES

ACHIEVEMENTS “I want to learn all that I can.” Learning on line. “It is a positive challenge to learn about computers.” Of course it is a challenge because it is indispensable. “The Internet is a marvelous source of information.” Yes, it keeps one informed and updated. “It is necessary to know English in order to use it.” It is necessary to know it, but also speak it, write it and read it. **DIFFICULTIES** “I don’t have experience with the Internet.” Experience is acquired with practice and persistence. “I am inept.” Practice makes the teacher. “Touching a button in error provokes damage.” Consult (with others). “I don’t understand the message alerts.” Learn to use email.

(Group 5, page 2)

INFLUENCIAS SOCIALES

LOGROS "Tome un curso que me ayuda orientarme." Necesito un curso para convertirse en expertos. "Arreglo mi horario para asistir con un grupo." Excelente porque un grupo se motiva y se aprende mas. "Mi esposo(a) (pariente, amigo[a]) me explica." Que bueno, pero es necesario que lo oriente un experto. "El técnico me da atención personalizado." Aprovechar al máximo esta atención.

DIFICULTADES

"Mi familia me burla por querer estudiar." (Es mucha ignorancia d.) Invitar a un experto para convencer a la familia de la importancia del Internet. "Mi conyuge me dice que no puedo participar." (Concientizar) Que alguien le hable al conyuge. "No entiendo cuando me explican las cosas." Concentrarse mas y preguntar lo que no entiendo. "No me siento bienvenido cuando llego." Tratar de motivarlo y levantar su autoestima.

(Names of group members were written at bottom of document.)

English Translation:

(Group 5, page 2)

SOCIAL INFLUENCES

ACHIEVEMENTS "I took a course that helps to guide me." Needs a course to become an expert. "I arrange my schedule to attend with a group." Excellent, because a group motivates itself and more is learned. "My spouse (relative, friend) explains it to me." Good, but it is necessary that an expert guides you. "The technician gives me personalized attention." Take maximum advantage of this attention.

DIFFICULTIES "My family makes fun of me because I want to study." (That is very ignorant of...) Invite an expert to convince the family of the importance of the Internet. "My spouse tells me I can't participate." (Consciousness raising) Have someone speak to the spouse. "I don't understand when they explain things to me." Concentrate more and ask what I don't understand. "I don't feel welcome when I arrive." Try to motivate him(her) and raise his(her) self-esteem.

(names of group members written at bottom of document.)

DOUGLAS HUDSON TEDFORD

Education Research Director, TMC
Bilingual, Bicultural Education Research and Development
1022 Laurel Drive, Laredo, Texas 78045
(956) 796-9394, 763-9205; douglastedford@gmail.com

EDUCATION

- Dec 2008 WALDEN UNIVERSITY
Richard W. Riley College of Leadership and Education
Ed.D., Administrator Leadership for Teaching and Learning
*Social Capital Influences Upon Internet Usage of Rural Guatemalan Teachers
for Professional Development*
- Aug 1992 UNIVERSITY OF SOUTHERN CALIFORNIA
Rossier Graduate School of Education
M.S.Ed., Elementary Education, Bilingual-Crosscultural Emphasis (Spanish)
- May 1987 UNIVERSITY OF SOUTHERN CALIFORNIA
Annenberg School for Communication
B.A., Social Sciences & Communication

EXPERIENCE

2006 – Present
Volunteer Educational Consultant
Fundación Rigoberta Menchú Tum, Guatemala City, Guatemala

Advisory committee, Universidad Maya, to strategize improvements in enrollment and persistence of indigenous Mayans in higher education. Designer, co-editor of FRMT online publication: *Revista centroamericana de educación indígena*. (ISSN 2070-3376).

Site Administrator, FRMT Virtual Campus. Online and onsite teacher training of rural Guatemalan teachers of English in public primary and secondary schools in principles of language acquisition. January-February 2007, July 2007, July 2008 and ongoing.

(See conference presentations, below)

2001 -Present
Education Research Director
TMC/ Teaching and Mentoring Communities (formerly Texas Migrant Council), Laredo, Texas
Migrant Seasonal Head Start (Department of Health and Human Services)
Texas, New Mexico, Oklahoma, Nevada, Ohio, Indiana, Wisconsin, Iowa

Experienced 300% increase in adult education enrollments upon design and implementation of *Family Institute* family literacy education program--winner 2005 Annie E. Casey Foundation award/ NCLR, serving 650 Hispanic farm worker adults and their preschool children 2001 -2005. Managed 500K annual budget, 11 employees (federal funding priorities shifted after 2005).

Interviewed by CNN Radio en Español raising public image of TMC at national level. Award featured on CSPAN. First Lady Laura Bush endorsement increased support of other social services agencies for adult education services of TMC.

Mentor, Texas Early Education Model: host online professional development for total of 100 teachers, site monitoring and teacher mentoring to foment improvements in Early Childhood Education classroom practice and assessment; monitor educational assessment technology for remediation and instruction.

Lead Administrator, testing of 3,500 students in National Reporting System: Planning and supervision of 170 staff in training, assessment and program improvement for National Reporting System preschool testing in 77 Head Start schools for Hispanic farm worker children.

Grant writing for migrant programs expansion within Department of Health and Human Services resulted in 3 million dollar increase in programs budget, 2001. Ongoing grant writing projects included contributions on team for 60 million dollar triannual continuation grant, literacy grants, funding for farm worker scholarships.

Obtain First Lady Laura Bush videotaped media endorsement for local Parent Education programs of Teaching and Mentoring Communities. Fund raising, in-kind donations, raise community awareness and support for annual free entertainment event for indigent children and families: Key member for planning to grow event to 3,000 attendance in second year, 7,000 second year with 14,000 attending in 2005 (annual value: 100K).

1999 -2001

Administrator Specialist/ Education

United Independent School District Laredo, Texas

Oversee program management issues of bilingual education, gifted education programs in a 25,000K students in a South Texas school district. Design, development and implementation of school district training programs in line with federal and state standards for literacy and bilingual education. Train school district staff in mandated curricular areas.

Obtain support of internationally-recognized trainer in gifted education as long-term sponsor of gifted programs training, including placement of Laredo as site for Texas Early Education Model, incorporation of local staff for participation in state curriculum planning for gifted education. State of Texas-Certified Trainer for Gifted/ Talented Education.

1997 – 1999 (1988 – 1992)

District Cluster Teacher Trainer/ Classroom Teacher
Los Angeles Unified School District Los Angeles, California

Franklin-Marshall Cluster Teacher Trainer, Region G, Los Angeles Unified School District: Responsible for training of 100 area school teachers, grades K-5, to meet standards for planning and development of state and federal initiatives for literacy and numeracy. Spanish Bilingual grades 1 – 3. Classroom Teacher, 1988 – 92 / 1997 – 99

1996 -1997

Product Manager, English Language Teaching, Latin America
Simon & Schuster Latin America Mexico City

Product development, market research, editing, adaptation plans and product development for Mexico, Central and South America: Enigma (oriented to university-preparation of students within high-school COBACH system, SuperKids, targeted to lower-primary private schools market).

Coordination of product development plans and teacher training programs: Mexico, Central America, Ecuador, Colombia to adapt to economic and educational development. Wrote advertising copy, oversaw all processes of development and distribution to 23 marketing offices.

Development and publication of *Simon & Schuster English Language Teaching Catalog* © 1997. 125K print run. Distributed in all Spanish-speaking Latin American markets. Incorporated products of recently-acquired companies (Prentice-Hall Regents and Phoenix ELT) into front-matter. Set design standards, managed staff, wrote all ad copy.

National and international education conference presenter (see below), included Ecuador, Colombia, Panama, Costa Rica, El Salvador and Mexico. Taught audiences in principles of approaches to developing Business English (adult education) courses, language acquisition courses for adult learner markets in Latin America, also primary education.

1994 – 1995

Product Manager, English Language Teaching, Mexico/ Central America
McGraw-Hill Interamericana (McGraw-Hill Editores), Mexico City

Product development/ training, governmental consulting and coordination of teacher training programs in Mexico, Guatemala, El Salvador, Panama, Costa Rica. Link assessed language and pedagogical knowledge of target group teachers to training content and methods of delivery, resulting in a two-year 3 million dollar spike in Mexico sales.

Presenter: TESOL, MexTESOL, Guatemala NCTE, El Salvador TESOL (see conference presentations, below). Sales conference planning and leadership: Antigua, Guatemala (all Central America sales representatives) and Queretero, Mexico, for market growth of ELT (English-language teaching) client base.

Develop *In Touch* ©1995 9-book adaptation (150K initial print run) and *Learning English Teacher's Guide* © 1995. Collaborate on budget development for elaboration of product development plans for those and other products, including *Travelog, Sing It!*. Wrote copy for products in annual McGraw-Hill Mexico catalog.

1992 -1994

Educational Researcher/ Author

Interlingua (Idiomas S.A. de C.V.) Mexico City

Product Developer/Author *Business Communications* ©1993, *Oral Presentations* ©1993. This was a business English course oriented to mid-management professionals, which was marketed in print and radio advertisements and through hotel seminar events. Increased public awareness of company and spiked sales.

Development of educational and corporate publications and training modules, including coordination of executive training seminars (see conference presentations, below).

COMMENDATIONS

- 2005 WALDEN PONDER MAGAZINE, Feature Article, November 2005
 “Breaking the Cycle of Perpetual Poverty” Retrieve at:
http://ponder.waldenu.edu/c/11492_22737.htm
- 2005 NATIONAL COUNCIL OF LA RAZA/ ANNIE E. CASEY FOUNDATION
 Family Strengthening Award
 Program Design and Implementation: Family Institute, Family Literacy Program
- 1995 INSTITUTO TECNOLOGICO DE MONTERREY (ITESM), Zacatecas, Mexico
 Honorary Faculty, School of Humanities

PUBLICATIONS

Tedford, D. (2008). Factores que afectan a la difusión del uso del Internet en las naciones en desarrollo. Revista centroamericana de educación indígena: Qatz'oloq-Nuestra Educación. Fundación Rigoberta Menchú Tum. www.frmt-rcei.com and www.frmt.org

Tedford, D. (2008). Factors affecting the diffusion of the Internet in the developing world. Central American Journal of Indigenous Education: Qatz'oloq-Our Education. Fundación Rigoberta Menchú Tum. ISSN 2070-3376. www.frmt-rcei.com and www.frmt.org

Tedford, D. (2008) Social capital influences upon Internet usage of rural Guatemalan English teachers for professional development. 393 pp. Walden University, Richard W. Riley College of Education and Leadership, Minneapolis, Minnesota. Proquest/ UMI 10055.

ELT English Language Teaching Catalog, © 1997, Simon & Schuster Latin America, Mexico City (Editorial Management, Advertising)

In Touch, Revised Edition © 1994, McGraw-Hill Interamericana de Mexico, Mexico City (Editorial Management)

Learning English Teacher's Manual © 1994, McGraw-Hill Interamericana de Mexico, Mexico City (Editorial Management)

Sing It! Training Video Program © 1993, McGraw-Hill Interamericana, Mexico City (Product Design)

Business Communications (English as a Foreign Language Course), © 1993 Interlingua (Idiomas S.A. de C.V.), Mexico City (Sole Author)

Oral Presentations (English as a Foreign Language Teacher Training Course), © 1993: Interlingua (Idiomas S.A. de C.V.), Mexico City (Sole Author)

CREDENTIALS

- Jun 2003 HEAD START BUREAU, DEPARTMENT OF HEALTH AND HUMAN SERVICES, Lead Administrator Trainer Certification, Head Start National Reporting System (preschool literacy and numeracy)
- Dec 2000 TEXAS EDUCATION AUTHORITY, Trainer Certification
Region One Education Service Center
Gifted and Talented Education
- Jul 1999 STATE BOARD FOR EDUCATOR CERTIFICATION, Teaching Certificate (Permanent/ Life) Preschool – Grade 8, Bilingual (Spanish) State of Texas
Early Childhood Education (PK – KG)
Elementary Self-Contained, Bilingual/ESL/Spanish (1 – 8)
- Jun 1999 STATE BOARD FOR EDUCATOR CERTIFICATION, Certificate
Texas Oral Proficiency Test, Spanish, 8+ (Advanced/ Native)
- Sep 1992 COMMISSION ON TEACHER CREDENTIALING, Teaching Credential (Exp. Sep 2002) Kindergarten – Grade 12 & Adult Education, California
Professional Clear Multiple Subject Teaching Credential, Bilingual Spanish
- Sep 1992 COMMISSION ON TEACHER CREDENTIALING, Certificate
Crosscultural, Language & Academic Development A-Proficiency Spanish
- July 1991 UNIVERSITY OF CALIFORNIA LOS ANGELES, Graduate School of
Education Center for Academic Interinstitutional Programs, UCLA Open Writing
Project

CIVIC/ STATE/ NATIONAL RECOGNITION

Focus Group Member, National Reporting System, January and June 2004/ Washington, D.C

Steering Committee, El Día de los Niños, Laredo Organizing Committee, 2000 to present

Coordinator, International Visitors Program, (Appointment/ Dean Emeritus) School of Public Administration, University of Southern California, Summer 1987

CONFERENCE SPEAKER/ TRAINER

“Metodos instruccionales de lenguas basados en un asesoramiento de producción oral”, Fundación Rigoberta Menchú Tum/ Universidad de San Carlos, Ciudad de Guatemala, 2008.

“Planeación de programas de estudio basada en principios del constructivismo”, Fundación Rigoberta Menchú Tum, 3-Day Workshop, Centro Educativo Luciano Pavarotti, Programa Educativo Utzilal Tijonikel, San Lucas Toliman, Guatemala, 2008.

“Metodos instruccionales de lenguas basados en un asesoramiento de producción oral”, Fundación Rigoberta Menchú Tum, 3-Day Workshop, Centro Educativo Luciano Pavarotti, Programa Educativo Utzilal Tijonikel, San Lucas Toliman, Guatemala, 2007

“Planeación de programas de estudio basada en principios del constructivismo”, Fundación Rigoberta Menchú Tum, 3-Day Workshop, Centro Educativo Luciano Pavarotti, Programa Educativo Utzilal Tijonikel, San Lucas Toliman, Guatemala, 2007.

“Texas Early Education Model” (20 online professional development workshops annually for preschool teachers) The Texas Migrant Council, 2005 – present

”Alternative Approaches to Recruitment of Farm Worker Children for Head Start”, National Head Start Hispanic Institute, Denver, Colorado, 2006

“Family Institute: Family Literacy Program Design”, National Council of La Raza, Annie E. Casey Family Strengthening Award, 2005

“Recruitment of Farm Worker Families for Participation in Head Start”, National Head Start Hispanic Institute, Albuquerque, New Mexico, 2005

“Family Literacy/ Family Development”, National Council of La Raza, 2003

“Assertive Discipline”, United Independent School District, 2001

“Standards for Implementation of Curriculum for Gifted/ Talented Students”, United Independent School District, 2000

“Cooperative Learning”, United Independent School District, 1999

“Math Instruction in a Whole Language Setting”, Los Angeles Unified School District, 1999

- “Print Rich Classroom Environments”, Los Angeles Unified School District, 1998
- “Literacy and Language Learning”, Los Angeles Unified School District, 1998
- “Shaping Authentic Materials”, California Teachers of English to Speakers of Other Languages (CATESOL), San Diego, California, 1995
- “Dialogue Journals: Applications for the Adult EFL Classroom”, Mexico City, Mexico, 1995
- “Communicative Approaches for English Language Learning”, Puerto Vallarta, Mexico, 1995
- “Writing and Reading Across the Curriculum”, National Council of Teachers of English (NCTE)/ Guatemala City, 1995
- “Information Gap Theory and Communicative Language Teaching”, National Association of Bilingual Educators, Celaya, Mexico, 1995
- “Communicative Language Teaching”, McGraw-Hill Interamericana de Mexico, to Colegio de Bachilleres (COBACH) of the Secretaria de Educacion Publica/ Mexico in Villahermosa, Tabasco, Mexico, 1995
- “Four Strategies for Empowering Language Learners”, McGraw-Hill Interamericana de Mexico, Instituto Tecnologico de Estudios Superiores de Monterrey, Monterrey, Mexico 1995
- “Oral Presentations”, McGraw-Hill Interamericana de Mexico, Instituto Tecnologico de Estudios Superiores de Monterrey, Aguascalientes, Mexico, 1995
- “Student Oral Language Observation Matrix”, McGraw-Hill Interamericana de Mexico, Instituto Tecnologico de Estudios Superiores de Monterrey, Tijuana, Mexico, 1995
- “Student Oral Language Observation Matrix”, McGraw-Hill Interamericana de Mexico, Instituto Tecnologico de Estudios Superiores de Monterrey, Colima, Mexico 1994
- “Four Strategies for Empowering Language Learners”, McGraw-Hill Interamericana de Mexico, Instituto Tecnologico de Estudios Superiores de Monterrey, Merida, Mexico 1994
- “Communicative Language Teaching”, McGraw-Hill Interamericana de Mexico, Nacional Association of Bilingual Education, Zacatecas, Mexico, 1994
- “Four Strategies for Empowering Language Learners”, Mexico Teachers of English to Speakers of Other Languages (MexTESOL), Ixtapa, Mexico, 1994
- “Communicative Language Teaching”, Ministerio de Educación, Costa Rica, 1994
- “Approaches for Teaching Business English in Mexico”, Teachers of English to Speakers of Other Languages (TESOL) Baltimore, Maryland, 1994

- “Standards for Bilingual Education Programs”, El Salvador TESOL, San Salvador, 1994
- “Oral Presentations”, McGraw-Hill Interamericana de Mexico, Instituto Tecnológico de Estudios Superiores de Monterrey, Morelia, Mexico, 1993
- “Oral Presentations”, “Business Communications”, Interlingua, Mexico City, 1993
- “Communicative Language Teaching”, Ministerio de Educación, Panama City, Panama, 1994
- “Communicative Language Teaching”, McGraw-Hill Interamericana de Mexico, Instituto Tecnológico de Estudios Superiores de Monterrey, Zacatecas, Mexico, 1993
- “Communicative Language Teaching”, McGraw-Hill Interamericana de Mexico, Nacional Association of Bilingual Education, Zacatecas, Mexico, 1993
- “Dialogue Journals”, McGraw-Hill Interamericana de Mexico, Instituto Tecnológico de Estudios Superiores de Monterrey, Tampico, Mexico, 1993
- “Business Communications”, COPARMEX, Puebla, Mexico, 1993