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Empowerment, Access, and Rights:

**Introducing Information and Communication Technology
to Women in Costa Rica, Mexico, and Nicaragua**

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**Empowerment, Access, and Rights:
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by

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*This dissertation is dedicated to my best friend and life partner, Andy,
who has always supported me, guided me, and inspired me.*

*To my parents, Nan and Ralph, and sister, Melissa,
for always encouraging me to reach for the stars.*

And to B.E.L. who motivated me to the very end.

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**Empowerment, Access, and Rights:
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Amidst the dilemmas, controversies, and challenges associated with integrating computer technology in developing countries, many studies suggest that information and communication technology (ICT) offers a creative solution to persistent structural and social problems such as illiteracy, poverty, and unemployment (Wagner, 2001). Others contend that ICTs are tools that may be used to further individual or collective entrepreneurial endeavors. With the expansion of ICTs, women, in particular, are attempting to capitalize on these technologies to strengthen their individual positions in the public and private spheres. The widespread incorporation of ICTs in the Third World may have positive, benign, or negative effects on individuals. The success of such ICT

programs depends upon the context in which they are created and how they address issues of the underlying structural problems inherent in the global structure of neoliberalism.

My research explores to what extent programs, both public and private, influence the lives of women. More specifically, I will analyze how women experienced a change in self-esteem, created solidarity through their shared experience with other women, and were empowered in their homes, particularly in respect to their relationships with their children. At the same time, I will address how and why women often experienced disempowerment as they attempted to capitalize on their skills and new social capital. My analysis will attempt to illustrate to what extent this course influenced personal empowerment, empowerment at the community level, and development on the macro level.

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CHAPTER 1: INTRODUCTION

Access to information and communication technology (ICT) has been expanding in developing countries. Some scholars and development organizations see ICTs as a creative solution to persistent structural and social problems such as illiteracy, poverty, and unemployment (Wagner, 2001). Others contend that ICTs are tools that may be used to further individual or collective entrepreneurial endeavors (Bridges, 2002). With the expansion of ICTs, women, in particular, are attempting to capitalize on these technologies to strengthen their individual positions in the public and private spheres. The widespread incorporation of ICTs in the Third World may have positive, benign, or negative effects on these women. The success of such ICT programs depends upon the context in which they are created and how they address issues of the underlying structural problems inherent in the global structures of neoliberalism. ICTs may even pose a threat to women by perpetuating or deepening existing underlying gender biases, gender inequalities, and the sexual division of labor.

This dissertation explores the impact of computer training on the lives of women in three Latin American countries. In this introduction, I will provide an introduction to the digital divide and an overview of “education for development” programs. I will also provide theoretical and practical explanations of why I decided to focus on the three countries of Costa Rica, Mexico, and Nicaragua.

Digital Divide

The concept of the “digital divide” describes the unequal access among nations of the world to modern ICTs, including telephone, television, and Internet. This concept also describes the inequalities between men and women, between majority and minority groups, and between the divergent experiences of rural and urban inhabitants that are enhanced by technology. While technology has been commended for many advances in modern society (World Bank, 2002), it has also been charged with broadening the gap between the haves and the have-nots (NTIA, 1999). I will use the term to express the differential and uneven access to ICTs between and within countries.

The digital divide is most apparent on a global scale because most developing countries are excluded from the potential benefits of a complete

technological infrastructure. Many development programs, such as those generated or supported by multilateral and multinational funding agencies, have identified this inequity. Some organizations have focused their efforts on implementing ICT programs in developing countries. The World Bank, for example, has created the Global Information and Communication Technologies Department to “provide governments, private companies, and community organizations with the capital and expertise needed to develop and exploit ICT to reduce poverty and foster development”(World Bank, 2002). However, it has been particularly difficult to incorporate ICTs in many rural or marginal areas of developing countries due to insufficient infrastructure and cultural or social barriers, further perpetuating the digital divide.

One potential solution to narrow the digital divide is to increase access by expanding computer access points in community centers, such as schools, libraries, and other public venues. However, increasing the number of access points is an insufficient solution because, while people lack access to technology, they also lack the skills required to use technology (Perranton, 2000; Wagner, 2001). Such is the case in most of the developing world. Some non-profit organizations, such as those focused on in this dissertation, have attempted to expand technology while providing skill-training.

My fieldwork in Costa Rica, Mexico, and Nicaragua focused specifically on the experiences of women who participated in computer training offered by

non-governmental and public organizations. These courses were designed to complement other programs throughout the country that aim to expand ICTs in the region. In the short-term, these courses may benefit poor women by expanding their skill base and human capital. Additionally, the foundation and funding organizations alike believe that with the expansion of computer technologies, the long-term goal of developing and expanding technology in the region will lead to an influx of foreign capital and employment opportunities for the millions that are under- and unemployed. Therefore, it is the goal of these organizations that the expanding computer technology to women will strengthen the general economy. This dissertation evaluates the impact of these programs on the lives of women.

While the goal of the funding organizations fit within the context of a neoliberal project, it is important to look past some of the polarizing debates regarding globalization and neoliberalism in analyzing their potential impact. While it is important to cautiously evaluate these programs on a macro-level, my goal is to analyze the programs on a micro-level and critically assess how these programs are (or are not) helping individual women. Even though these programs may not specifically challenge the structures that created many of the economic and social inequalities that exist in countries in the developing world, ICT training organizations are challenging the notion that computers are only for the privileged few. By bringing computer technology to women in the Third World, these development programs may contribute to the empowerment of women at work and

in their homes. An unintended consequence may be the further emancipation and empowerment of women in the political and social spheres.

My research explores how ICT programs, both public and private, influence the lives of women. More specifically, I will analyze how women enrolled in computer training experience changes in their sense of self, their relations with other women, and their relationships with family members, particularly their children. At the same time, I will address whether women experience disempowerment as they attempt to capitalize on their skills and new social capital. My analysis will attempt to illustrate to what extent ICT courses influence personal empowerment and empowerment at the community level for women.

Education for Development: Can computers be the answer?

I have been working, studying, and living in Latin America, sporadically, for the last decade. I have come across dozens of non-governmental organizations (NGOs) that work towards the goal of bringing food, water, shelter, or medicine to those in need. These organizations work tirelessly in the Third World to cater to the most basic human needs. Now, more than ever, there exists a new breed of

NGOs that carry out their work, as some would see it, rather indirectly. Many of these organizations focus on education. Their philosophy and mission is reflected in the old saying, “you can give a man a fish that will feed him for today or you can teach him how to fish and he can eat for a lifetime.”

The education for development perspective is oriented towards the goal of transferring skills and knowledge to others (Graig and Mayo, 1995). It is the belief that with a new body of information, people will be better equipped to solve their problems. With the changing labor market demands from solely basic labor skills, to skills that incorporated increased specialization in technology, many organizations have begun to bring even the most remote places in contact with technology.

It is perhaps not surprising that the Central American and Mexican labor market demands are shifting towards the use of technology, but what is surprising is the rapid rate at which this has become a requisite for work. In the developing world, computer literacy has become the key to obtaining virtually any type of work, regardless if computer skills are even necessary for the specific job. Computer skills have become a form of human or cultural capital used as a mechanism to weed out job applicants.

Unfortunately, few individuals possess these skills. From my fieldwork experience, I observed that if an individual has computer skills, they are more likely to be young adults from at least a middle-class background who learned

computers in school (if they were lucky enough to be in a good school district or attended a private school). Many of those who want to take computer classes cannot because the cost of a private program is prohibitive. Although state-run courses that are far less expensive are sometimes available, these individuals are often juggling so much in their lives just to keep their head afloat that they do not have the time to take a course.

So the cycle of inequality continues – those without an education cannot find work and those without work cannot afford an education. One of my respondents from Nicaragua shared with me her experience in the job-search before she took the computer course. She purchased the daily newspaper and searched through the classifieds, looking for open positions. She went to a few potential job sites to inquire about the posted jobs. Jazmina was not very picky – she just needed a formal job that would give her a regular paycheck. One of her first stops was McDonald’s. While she would have to take two buses from her community to arrive at work, she felt that it would be worth the effort. She went to the fast-food chain to apply for a cleaning job, which would involve cleaning and sanitizing the back equipment and cleaning the restrooms. She was told not to apply for the job since she did not have computer skills. As she turned to leave, an employee approached her. He turned to her and said, “You think you can just come in here and expect to work? I have a degree, I am a lawyer. Go study. Come back after you have your degree and then we will see.”

Soaring rates of unemployment mean that even those who have advanced educational credentials are filling the ranks of lower-level jobs. Employers like McDonald's can then create an unrealistic set of prerequisites for manual labor. These employers have carte blanche to discriminate against those without an education, even in countries like Nicaragua where the majority of the population does not finish secondary school.

One may be thinking now, "well, of course they 'discriminate' if that is what you want to call it, but that is the natural order of things in the labor market." In the United States we also have requirements: some education is required to work at McDonald's. However, in a country like Nicaragua, where less than 29% of children complete primary school (UNICEF, 2004), the situation is very unlike the US. The labor market demands are changing there so rapidly that even many "sweatshops" were requiring computer skills. Also, computers have had a more natural progression in the US over several decades, whereas in countries like Nicaragua, the influx of computers and related technologies has been at an astounding rate. Although there has been a rapid process of expansion, it will still take time for the human or cultural capital of the masses to catch up to these new skills and requirements.

My master's work in Nicaragua often led me to question whether or not computers could be an answer for development (Lee, 2001). If more poor people had computer skills, then they may be able to obtain jobs in the formal market. If

they had formal work, then they would have an income and not be living day-to-day. It seemed like a plausible solution to some of their problems. ICT training could be an opportunity to at least level-out the playing field and provide them with a chance to work. After several months of working with sex workers who had no other options in the formal market, I founded School For All, a non-profit organization, in order to provide scholarships for women to study computers. It was the mission of my NGO to offer opportunities for the sex workers to study, hoping to improve their options for finding more dignified work.

Three years later, during a return visit, many of the women expressed that the computer-class was a life-changing experience for them. However, most still had not found formal work. I began to wonder what was the real impact on them? If it were not the actual skills they were learning that was changing their lives, then what aspect of the computer class was empowering? This question intrigued me and led me on a three-country research study in Central America and Mexico to find out. This dissertation attempts to address these questions and more with the data I collected as part of this larger research agenda.

Country Selection

One of the most challenging aspects of preparing to conduct research for a dissertation is selecting the sites for fieldwork. My research agenda focused on questions about: 1) the efficacy of ICT training programs for women; 2) how different organizational philosophies in countries with different labor markets impacted their success; and 3) if and how these courses could be a source of empowerment for women. Given my research questions, I found it imperative to look not only at different organizational structures to analyze their impact on women's empowerment, but to also consider countries with varying labor markets within the region of Central America and Mexico.

Nicaragua was initially chosen because of my previous experience in the country and my desire to continue to assess the impacts of the School For All program. However, current labor market indicators and labor force participation data also made Nicaragua a strong candidate for inclusion in this study. High levels of income concentration, and therefore income stratification exist throughout the relatively poor region of Latin America. First, Nicaragua is the least economically developed of the three countries, with a per capita income of US\$820 in 2003, in comparison with US\$4682 in Mexico and US\$3935 in Costa Rica (CEPAL, 2004: Annex Table 1). Nicaragua also has the highest level of income inequality (Table 1). Second, Nicaragua continues to have high income

stratification. Selecting the other two countries served as important points of comparison where Costa Rica has relatively low income stratification and Mexico falls somewhere between the two (see Table 1).

Table 1: Income Stratification of Latin American Countries (according to the Gini Coefficient of income distribution, 2000)

Level of Inequality	
Very high 0.580 - 1	Brazil (0.639) Argentina (0.590) Honduras (0.588)
High 0.520 – 0.579	Nicaragua (0.579) Colombia (0.575) Bolivia (0.554) Chile (0.550) Dominican Republic (0.544) Guatemala (0.543) El Salvador (0.525) Peru (0.525)
Medium 0.470 – 0.519	Panama (0.515) Mexico (0.514) Ecuador (0.513) Paraguay (0.511) Venezuela (0.500) Costa Rica (0.488)
Low 0 – 0.469	Uruguay (0.455)

Source: CEPAL, 2004

Second, these countries are stratified along educational lines, with Nicaraguans less likely to finish secondary school, while Costa Ricans have higher educational attainment levels on a regional level (see Table 2). Finally, the unemployment rates for these three countries range from Mexico with one of the lowest urban unemployment rates in the region of 2.7% and Nicaragua with one of the highest at

12.9% (CEPAL, 2004b: Table 29, page 31). With the inclusion of Costa Rica and Mexico, this study was designed to examine the impact of computer-initiatives on women's lives in countries at different stages in their formalized economic development.

Table 2: Percentage of Women Completing at Least 10 Years of Schooling in Urban and Rural Areas, Selected countries

Country	Urban	Rural
Costa Rica	46.8	18.8
Mexico	36.9	12.0
Nicaragua	26.9	4.4

Source: CEPAL, 2004: 30.2)

As indicated in Table 3 below (CEPAL, 2004), all three countries have experienced increased urbanization in the last few decades. Costa Rica remains largely rural, with only 50.4% of its population residing in urban areas as of 2000. Mexico is the most urbanized of the three countries, with an urban population of over 75% in that same year.

Table 3: Percentage of Urban Population – 1980 – 2015 (projected)

Country	1980	1985	1990	1995	2000	2005	2010	2015
Costa Rica	43.1	44.8	46.7	48.5	50.4	52.3	54.2	56.1
Mexico	65.5	68.6	71.4	73.4	75.4	77.2	78.8	80.2
Nicaragua	50.1	51.4	52.5	53.9	55.3	56.7	58.1	59.4

Source: CEPAL, 2004a

Tables 4 and 5 provide descriptive statistics on the nature of work, first overall, then in urban areas. A general overview of these charts reveals that approximately 50% of the total of each population participates in economic activity, with the highest percentages for urban men. What these tables fail to account for is the high percentage of informal activity that many people, particularly women, rely on.

Table 4: Participation Rate in Economic Activity, By Sex – 2000

Country	Both Sexes	Men	Women
Costa Rica	51.1	72.9	28.9
Mexico	52.9	73.1	33.5
Nicaragua	54.0	72.1	37.0

Source: CEPAL, 2004b

Table 5: Participation Rate of Urban Population in Economic Activity, By Sex – 2002, average for ages 25 – 59

Country	Both Sexes	Men	Women
Costa Rica	75.2	95.4	57.8
Mexico	73.1	95.7	53.7
Nicaragua	78.1	95.2	64.0

Source: CEPAL, 2004b

The economic activity rate in urban areas for the three countries indicates that, while the participation levels for men is rather constant across these three countries, more women in Costa Rica and Nicaragua than in Mexico are involved in economic activity. This is an indicator of Mexico's more traditional roles for

women, as well as the need for more women to work in the less prosperous economies of Costa Rica or Nicaragua. However, the stark differences of GNP per capita (as presented above) between Nicaragua in the other two cases suggests that high Nicaraguan female participation rate is due to necessity and ease of entry through in the informal economy. In Costa Rica, it reflects opportunities in the formal urban economy. Mexico has relatively low urban sector participation rates for women, possible because of traditional reluctance to have women work outside the home. This is a complex issue since it involves availability of child care, which is not very good in Mexico and better in Costa Rica and Nicaragua. The overall female participation rate, for urban and rural women, is lowest in Costa Rica, which indicates the influence of low rural female participation rates.

Table 6 provides an overview of the structure of female employment in the three countries where, across the board, approximately two-thirds of the economically active female population works in the service industry.

Table 6: Structure of the Female Economically Active Population by Sector of Economic Activity, 1990

Country	Agriculture	Industry	Services
Costa Rica	6.4	25.9	67.7
Mexico	11.6	19.9	68.5
Nicaragua	8.8	22.6	68.6

Source: CEPAL, 2004b

In Table 7, we can see the stark increase of women involved in the informal economy in Nicaragua over time and how it greatly differs from the experiences of women in Costa Rica and Mexico.

Table 7: Urban Informal Economy Workers (non-professional self-employed, domestic servants, and workers in establishments of less than five workers) as % of Total employed

	1989/90 ¹		1996/7 ¹		2000/1 ¹	
	Total	Female	Total	Female	Total	Female
Costa Rica	31.7	37.4	32.1	37.1	33.8	38.0
Mexico			38.7	44.2	37.5	42.9
Nicaragua	47.2	51.4	56.0	64.3	55.5	62.8

¹ Years vary by country.

Source: CEPAL, 2004a; Annex Table 5, 5.2

The same statistical report (see CEPAL, 2004a Annex Cuadro 4) also indicates that female economic participation is higher in Nicaragua at lower educational levels than in the other countries. The Nicaraguan case is clearly that of a highly informal economy, which facilitates the participation of those without much education. At the same time, it also impacts the success of the expansion of ICTs, meaning that strategies like expanding computer skills are unlikely to have as much economic (i.e. job related) pay off compared to countries, like Costa Rica, which have a more formalized economy.

In sum, the data presented above illustrates that Nicaragua has high levels of inequality, informality, and poverty with low levels of education. These figures do not present an economy or society that could easily benefit from computer learning as a route to job mobility. It does leave open the opportunity, however, for

other functions of ICT to be beneficial. Costa Rica is a country with a relatively dynamic formal economy with high levels of female education, thus the instrumental use of ICTs for women is more evident. Mexico is in between, in that there are opportunities for urban women and not so much their rural counterparts. Yet the benefits of ICTs may not be as significant as Costa Rica because Mexico still has fairly high informality and slightly lower levels of female education than Costa Rica.

Current economic trends throughout the region guided the selection of the three countries. Divergent experiences of women in the three countries, marked by varying labor market participation rates in rural and urban areas, make Costa Rica, Mexico, and Nicaragua interesting comparative illustrations. In the next section, I will continue to present the rationale behind the selection of the three countries by first introducing how ICTs have impacted the Third World in general and these countries in particular.

ICTs and Development in Costa Rica, Mexico, and Nicaragua

Many scholars and development workers believe that the emerging ICTs and market forces combined could narrow the digital divide. But this has not

occurred yet and, in fact, technology and market forces continue to widen the gap between the rich and poor (Venkat, 2002), suggesting that new technologies benefit only the privileged sectors. ICT initiatives that are based on expanding access points are solely based on a self-help, market-led, or neoliberal approach to development. Through this so-called grassroots proliferation of computer technology, these development programs have not challenged, but rather reified the status quo, since existing cultural, social, and economic barriers that prevented people from accessing technology are still in place. For that reason, the context in which the technology is delivered is of paramount importance.

On a global scale, some contend that ICTs have the potential to generate income, expand education, improve the quality of health services, and reduce the vulnerability of the poor (Kenny, 2001). Programs like PEOPLink bring local crafts to international markets via the Internet, allowing rural and indigenous groups the ability to generate income from a global market (PEOPLink, 1998). The Grameen Bank makes it possible for low-income women to generate income by starting a pay-phone service with cellular phones in their communities. Many educational programs have been extended to rural areas through the expansion of radio and television broadcasting worldwide.

From a national development perspective, there are many reasons why developing countries promote the expansion of technology. First, this shift often requires foreign investments, often in the form of private or corporate “donations,”

rather than traditional bilateral loans. Second, this shift is centered on the creation of new employment niches. Some of the greatest opponents of investment in ICTs claim that they divert limited funding from more pressing basic human needs, such as health care, education, water sanitation, and the like (Aitkin, 1998). However, others contend that ICTs actually improve the effectiveness of programs and projects that focus on basic needs and therefore claim that ICTs should be integrated in most, if not all, development schemes. The 2001 United Nations Development Report looked at the relationship between technology and growth and concluded that “poor people need more innovation and access to technology, not less” (The Economist, 2001). In addition, they call for an increase in public funding for technology to ensure that the benefits of ICT are spread across borders and evenly within countries. However, severe barriers to implementing advanced technology continue to hinder its expansion. Over one hundred million school-aged children are out of school and one billion adults are illiterate world-wide, heavily concentrated in Africa, Asia, and Latin America. In addition, it is estimated that between two and three billion individuals are in need of basic skills (Wagner, et al., 1999; Wagner, 2000). Introducing technology to these marginalized people is not an easy feat, particularly for the millions whose first language is not English, Spanish, or French. Therefore, professional development and the training of teachers may be the first step in closing the gap and expanding technologies (Wagner, 2001).

It may not be necessary to be overly concerned with the digital divide, since our world, as we know it, is very unequal in all respects. But researchers are concerned that with the levels of development (health, education, transportation) converging, the access gap to technologies is growing (Kenney, 2001). Women and indigenous groups have an added challenge in overcoming the digital divide; the imminent risk that ICTs are reinforcing existing social and economic inequalities. This demonstrates that it is necessary to form a collaborative effort from governments, donor agencies, the private sector, and civil society to integrate appropriate technology locally (Gigler, 2001).

In the context of this project, most of the women who take advantage of additional training, with the exception of one program in Mexico, have little or no prior education. Therefore, while many programs seek to offer computer training, in reality, they first need to begin with literacy and other basic skills. Furthermore, most of the training is geared to niche markets where additional skills, such as secretarial experience or technical English may be prerequisites. Given these obstacles, this project will address how viable and realistic job placement is after the completion of different computer-based educational programs. It has been estimated that the incorporation of computers into the workplace has led to a 55% increase in the demand for women workers in the US (USA Today, 2000; see Freeman, 2000). Although many of the new jobs in Latin America are in the blue-collar sector, computer skills training does provide hope that more women will

have increased access to formal work. Since there are higher rates of illiteracy and other limitations of human skill, there are additional challenges when replicating this effect in the developing world.

Developing countries continue to experience tremendous challenges as they begin to incorporate technologies and begin to overcome the digital divide. Better outcomes can be expected if ICTs are integrated as a tool for economic and social development, particularly through sustainable development and education projects. A collaborative approach between governments, international donors, corporations, and non-profit organizations with the civil society will be most successful at expanding access to technologies and assuring that these benefits are distributed to the most marginalized groups.

The high levels of income inequality, as noted above for the three countries, create a substantial digital divide. The digital divide exists in these countries because of barriers to telecommunications infrastructure and internet access, particularly for the working and middle classes. Even middle-income earners lack the purchase power to buy into hardware and other computer-related costs. The separation between the classes is further entrenched as information and communication technology becomes a tool for the elite.

Mexico, like the United States, has implemented widespread Broadband network technology and continues to rank as having the highest levels of economic growth and foreign investment of countries in the region. However, only 5% of

Mexicans own a personal computer (World Bank, 2002b), while around 55% of American households own a computer (NTIA, 2002). Nicaragua has a comparatively weak and elementary infrastructure, with less than 1% of the population owning a personal computer (World Bank, 2002b). Costa Rica falls in between, insofar as more people (3.9%) have access to computers (World Bank, 2002b), but there are tighter government restrictions controlling the expansion of technologies, such as government regulated cell phone distribution and Internet service providers.

Table 8: Technology and Infrastructure Indicators

	Costa Rica	Mexico	Nicaragua
Daily Newspapers*	94	98	30
Radios*	271	330	270
TV Sets*	387	283	69
Telephone Mainlines*	172	125	31
Cell Phone Subscribers*	28	142	18
Personal Computers*	39.1	50.6	8.9
Adult Literacy Rate (% ages 15 and over)	95.3	91.7	66.9

*per 1000 inhabitants

Source: World Bank, 2005

Table 8 further illustrates the current infrastructure in the three countries, the most striking being the relatively weak infrastructure of Nicaragua compared to the other countries. As significant improvements to infrastructure continue throughout the region, such as increased access to electricity, there continues to be limited

access to technologies such as computers, phone lines, and internet-service providers. This particularly plagues rural areas and the urban poor.

While these statistics demonstrate that a profound digital divide exists in these countries compared to the West, they fail to represent who is being excluded from these technologies. Beyond the recognized disparities between the rich and the poor, other groups like women, minorities, and rural dwellers face additional barriers to technology. Therefore, both structural and social constraints need to be addressed. I hope to illuminate the barriers women face when accessing technology, and to explore how participating in ICT programs affects their personal and professional relationships. I will look at the experiences of the students partaking in development programs designed to incorporate information and communication technology.

The case studies in this dissertation directly question the overwhelming acceptance of integrating technology in the developing world by looking at individual experiences of participants involved in a computer-based development program. Bypassing basic needs programs with alternatives, such as skill-based training, may prove to be the impetus for long-lasting change in many areas, such as health care and poverty. The expansion of ICTs into the developing world may, or may not, expand or open labor markets, and individuals with ICT-related skills may be able to find their niche within the existing structure. However, while many initiatives seek to expand ICTs to women and other marginalized people, such

programs are not challenging the gender division of labor or other institutionalized inequalities that lead to subordination and further marginalization. I believe that the role of ICTs in educational programs for women is an important and understudied area, particularly since the World Bank, among others, has set forth policy decisions embracing ICT as an anti-poverty tool for women. This dissertation is able to contribute to our growing knowledge base on ICTs by presenting various possible benefits of ICTs in Latin America through skill training, empowerment, greater self-confidence, and helping people recognize the value of education.

The new approaches to development through ICTs deserve our attention and our scrutiny. We must begin to evaluate the efficacy of these programs, particularly when the primary goal is to attend to basic human needs. We need to critically assess whether ICT-based programs can successfully deliver assistance within varying labor markets throughout the developing world and how ICTs can best reach the most disadvantaged and marginalized groups. Like most NGOs, those focused on in this dissertation do not challenge the neoliberal structure that perpetuates inequality. They do, however, attempt to provide a quality educational opportunity, at low cost, for women to adapt to the technological changes required by being part of a globalized world. As I will show, these programs were seen as very successful in the eyes of the participants, even empowering them in some spheres of their life. Even though women continue to suffer from social and

economic obstacles that prevent them from acting as full and equal actors in larger society, having computer skills is, perhaps, one area where they can begin to challenge commonly held stereotypes about women's roles in society.

In the following chapter, I will review the relevant literature on women's role in the labor markets in Latin America in general, and Costa Rica, Mexico, and Nicaragua in particular. I will also review the literature relating the development, ICTs, and education for development programs. I will also address how the literature on empowerment has guided my analysis. The theoretical frameworks of Women and Development and Gender and Development will be presented as the basis for the selection of my cases, analysis of the data, and conclusions that follow. In Chapter Three, I will discuss the methodological tools invoked in this study. I will also present the six participating organizations in this study. Chapters Four and Five are the analysis chapters, the first analyzing the experiences of women in gender-focused organizations that fall within the theoretical perspective of Gender and Development, and the second dealing specifically with women in the non-gender-focused organizations who align themselves with the Women and Development perspective. In the final chapter, I will present my conclusion and thoughts for future discussion.

CHAPTER 2: LITERATURE REVIEW

In this chapter I will present the relevant literature related to my dissertation research. The following set of literatures both informed my research questions as well as guided my analysis. First, I will present the literature on Third World women in the labor force. I examine how this discourse has evolved since Boserup's 1970's assessment. Next, I will turn to providing an overview of the development and empowerment literatures. Finally, I will introduce three theoretical perspectives that social scientists use to understand women's experiences with development: Women in Development, Women and Development, and Gender and Development. These theories drove my selection of specific organizations to study, which are then described in Chapter 3.

Women and Work in the Third World

Boserup (1970) was one of the first sociologists to provide an overview of women's roles in the development process. Boserup observed that technology requires an increase of labor input, which alters the work assignments of women and men. Further, gender relationships change as societies move from extensive cultivation to more intensive farming systems. Boserup argued that the recruitment of women into the modern waged labor sector accelerates economic growth, she disputed the belief that women's work replaces men. Technology and the introduction of multinational corporations that alter and impact the labor market by absorbing women into segregated waged employment opportunities.

Lourdes Beneria (1982) following this analysis argued that the solution to women's oppression was encouraging women's entry into paid labor outside of the household. For Sylvia Chant (1991), women's oppression could be firmly observed in the home, and with that analysis came a strong statement that women might be better off alone, even as a single parent with children. Chant focused her work on how women who head single parent households can be better off than their peers in households where a spouse is also present. In contrast, Susan Tiano (1987) believed that women rendered economically vulnerable in a cash economy can be readily exploited by multinational firms seeking a docile labor force. Faced with the need to supplement household income through paid employment, but still

burdened with full responsibility for child care, Tiano argues that Third World women drift between formal and informal work sectors, further eroding their economic position.

Gita Sen (in Beneria, 1982) wrote on the effect of the transformation of agrarian structures and of technological change on labor requirements in agriculture in general, and their impact on women, in particular. She focused on the changes introduced by the Green Revolution in two regions in India. In one region, dominated by a powerful group of middle farmers, introduction of land reform and the new technology narrowed the range of tasks done by women and placed them at the bottom of the hierarchy of permanent and casual labor. In the area dominated by large landowners, there was a widespread proletarianization process with many conversions of landed into landless households.

This process has affected women to the extent that those who previously were family workers lost their land. Women workers have also been pushed out of traditional, but non-domestic, tasks as the result of the increase in “surplus” labor caused by land concentration and introduction of capital-intensive methods of cultivation. In both regions, women tended to be placed in the lower echelons on the labor hierarchy.

Maria Mies’ work (in Beneria 1982) confirms what Sen found in the agricultural industry. Mies looked at women lacemakers in India, and the process by which handmade lace is sold in the national and international markets. As the

lace produced in their homes began to be sold in expanding markets, the exploitation of women began. The results of the expansion since 1970, as Mies argues, has led to a greater class differentiation within local communities, as well as a greater polarization and differentiation between men's and women's tasks. This empirical study highlights the way politics, class, and gender intersects within capitalism to promote patriarchy and oppress women.

In most Third World cities, according to Brydon and Chant (1989), women have a very limited range of employment opportunities compared with men. Women face severe constraints in overcoming their "marginalization" in the labor market. One major reason for this is they are forced by culture, the state, and their families, into spending the greater amount of their time in reproductive activities, such as domestic labor and child care. The workers in peripheral countries receive no more than one-sixth of the wages received by their counterparts in the advanced industrial sector (Amin, 1976). Since female workers receive considerably less than their male counterparts, Third World women represent a *cheaper than cheap* segment of the international labor market.

In sum, women often experience exploitation, and this can manifest in the formal sector, such as their work in multinational corporations, the informal sector, and the household setting. These are all heightened by recent changes in the labor market. The main trust of most development schemes is to bring overall growth and productivity to an area or region, hopefully securing its economic progress.

Unfortunately, there is substantial evidence that indicates that many of these strategies aimed at overall development have been unfavorable in general, and to women in particular. Economic growth policies, since the ending of import-substitution industrialization, have emphasized free trade and the free flow of capital. This in turn, promotes and pushes for increased integration into the global economy. Various studies have indicated that these policies have, if anything, increased inequality in the region and at the same time destabilized labor markets (cf. Perez Sainz, 2005). As early as 1970, Boserup demonstrated that the introduction of modern technologies and the expansion of cash cropping benefited men, while often increasing women's work burden as family and casual labor. This is one example of the consequences of modernity on women.

According to Jaquette (1982), modernization theory says little about women, but what it does reflect the general liberal assumptions of development, that it be linear, expansionist, and modern. Therefore, industrialization should reduce the social impact of biological asymmetry between men's and women's physical strength, birth control should give women freedom from involuntary reproduction, and modern values should increase women's mobility and freedom. The difference between male and female absorption in this process is seen as a failure of diffusion, not the model itself.

Gita Sen and Caren Grown (1988) examine why and how strategies designed to achieve overall growth and productivity are actually unfavorable to

women. They argue that fundamental conflicts have arisen between women's economic well-being and wider development plans/processes. These conflicts are exacerbated because many long-term economic processes further suppress the poor in general, and women in particular. Sen and Grown examine how emphasis on private property and commercialization has often reduced women's access to resources. The evidence for this lies in the fact that the majority of the world's population finds it increasingly difficult to fulfill basic requirements of survival. Rather than channeling available resources into programs aimed at eliminating poverty and the burden of gender and other forms of subordination, nations and the international polity have tended to react to these pressures through increased militarization, domestic repression, and foreign aggression. This is compounded by a shift to bilateralism in aid and loans, while implementing cutbacks in contributions to multilaterals by some First World nations. In Latin America, multilateral agencies, including the IMF, are the important sources of non-private funding. The result is a shift to foreign direct investment. Because Latin American countries cannot rely on internal resources alone, they accept foreign capital and are subject to IMF conditionalities.

Standing (1989) looks at the claim that there has been a global feminization of labor. The international data suggest that women's participation has been rising, while male equivalent participation has been falling. However, women's participation is rising in Latin America partly because the population is

increasingly urban and women find “easy” entry into the informal sector. This aside, export-led industrialization has contributed to a rapid growth of low-wage female employment. Women have filled the ranks as semi-skilled and low paid jobs in assembling and production line work.

Standing (1989) claims that women are being substituted widely for men in various occupational categories. Some attribute the increase of women in the workforce to improvements in schooling or access to training, even anti-discrimination legislation. However, Standing believes that it has more to do with the feminization of labor, a desire to have a more disposable (flexible) labor force with lower fixed costs.

Women are employed largely in semiskilled jobs with little or no chance to develop necessary skills for promotion. They are vulnerable because the industries they work for often lay off production workers with little warning; they are treated as if they were invisible and must work extensively long work-weeks, and are exposed to poor health conditions (Human Rights Watch, 2002). More highly educated women enter the labor force during periods of high growth, but leave during a recession. In contrast, less well-educated, poor women enter during recession because of increased pressures on the family budget (García and Oliviera, 1994).

The increased vulnerability of women has been a growing trend with modernization, and has been heightened with the onset of structural adjustment

policies. The path of modernization, in general, and structural adjustment programs, in particular, are shaping women's access to employment and social services. The results have created an environment where women's limited access to education greatly restricts her access to employment. Organizations such as those highlighted in this dissertation are attempting to provide the opportunity of access to computers. This literature will provide a backbone to understanding the severe constraints experienced by women in the developing world and how expanding computer access may allow some women to overcome structural limitations and discrimination. Next, I will introduce how we have changed our understanding of development in the latter part of the 20th century. I will also present the important literature on empowerment which will be used to inform my analysis of the experiences of women in the computer classes.

The Theories of Development and Empowerment

On January 20, 1949 President Truman stood before Congress and proclaimed for the first time the existence of an underdeveloped Third World. For Truman and the modernization school, the underdeveloped world needed to modernize along a path similar to that of the US (Sutton 1989). Some theorists

demanded industrialization and modernization to propel the Third World to “take-off” (Rostow, 1960). With this came the requirement that people move from their “traditional” means (Amin, 1972) and adapt US and foreign solutions.

Many social scientists have critiqued these narrow views of development (Sutton, 1989; Escobar, 1995; Smillie, 1991). The greatest critique that emerged from that period was that the development processes constrained the Third World to a point where the region lacked freedom and self-determination (Sutton, 1989; Hancock, 1989).

Given our understanding of how the development discourse emerged, it is important to understand how we measure development. Amartya Sen (1999) criticizes the traditional methods for gauging development. According to Sen, the idea that development consists of an increase in GNP or per capita income is basically a vulgarization of the vision that originally motivated development economics. Sen proposes that the priority and goal of development should be the improvement of human life and liberty (Sen, 1999). In contrast, too many aid failures, ignored or hidden, condemn poor people to solutions that were ill-conceived of in the first place or that were never carried out correctly (Smillie, 1991) with the goal of inflating economic indicators.

Peripheral countries cannot simply follow the same paths to development that core countries followed (Amin 1976; Frank 1966). Amin (1976) urges researchers not to confuse underdeveloped countries with the now advanced

countries as they were at earlier stages of their development because of distinctive structural differences based on the economic domination by the center. Furthermore, structural adjustment policies in the neoliberal era prompted the spread and further entrenchment of Third World poverty, in a world-wide phenomenon labeled “rollback” (Bello, 1994). Socialism (Wallerstein, 1983) or a New World Order (Bello 1994), consolidating the hegemony of Northern corporate control, may allow for fairer development. This does not mean an end to competition, but would rather be based on cooperation, equity, and sustainability (Bello, 1994). Others call for things as simple as “care.” For Rich (1994), “care” is an attitude and way of being that saves the natural human past. This approach is a more subtle and considered approach to human interventions in the biosphere. Rich also proposes the strengthening of the Global Civil Society and organizations concerned with environment and resources, rural development, education, health, alternative technologies and human rights.

Development has become a profitable business with foreign aid and large development banks playing an important role. Some of the criticisms of development suggest that it is not the intended recipients of aid, but rather the West, who reaps its benefits (Bello, et al., 1994; Danaher, 1994; Rich, 1993). This is specifically important when focusing on ICTs, since here the debate is focused on whether there is a need for such technologies in the developing world, or

whether this is yet another mechanism of infiltrating an area to create a new breed of consumers, prematurely driven to modern ideals.

Dissatisfaction with development efforts has led to alternative development programs and perspectives that challenge current neoliberal trends (Koczberski, 1998). More specifically, there has been a growing awareness about specific “minority” groups in society. Perspectives like Women in Development, Gender and Development, and Women, Culture, and Development have paved the way for new understandings of development (Visvanathan, et al., 1997). Meanwhile, new research has documented the negative social, political, and economic effects of a development perspective in which “social welfarist concerns can only be addressed *after* growth, jobs, and investment have been secured” (Peck and Tickell, 2002: 394). This supports the goals of non-governmental organizations (NGOs) that continue to address social and economic issues even though larger structural problems remain.

Some theorists have suggested that scholars should assess the success of development in terms of the affect on communities or individuals (Friedman, 1992; Escobar, 1992). The politics of empowerment, which seeks to restore the initiative to the disempowered sectors, is one such alternative approach (Friedmann, 1992). Sen (1999) contends that the expansion of human freedom is not only the primary end of development, but also the principle means to ensure development. This political freedom can reinforce economic opportunity, and vice

versa. Therefore, an alternative method of measuring the success of development programs is to look at political empowerment.

“Empowerment” is the process by which “beneficiaries” become active and responsible participants in making positive change in their own lives. This is not the transfer of power to the powerless, but rather a mode of creating self-governing and responsible individuals (Triantafillou, 2001). Empowerment through ICT is achieved by supporting individual use of technology for personal needs and goals (Hermano, 1996).

It is necessary to ask who empowers whom, and for what reasons (Afshar, 1998; Rowlands, 1997), since we can no longer assume that the actions of facilitators are always positive. In fact, it has been demonstrated that, very often, development schemes or aid programs do more harm than good, such as the case when rotting food is sent abroad rather than needed medical equipment (Hancock, 1999). Development agencies often incorrectly interpret the needs of the poor. This unbalanced relationship is further exacerbated by the fact that those with power in development agencies are overwhelmingly white men (Jain, 1997). To be effective, development programs must be based on empowerment by enabling the poor to find means to set their own agendas (Rowlands, 1997), thereby making them actors in the process, rather than passive recipients of aid.

An empowerment perspective recognizes the differing needs and priorities of different people in different areas (Afshar, 1997). The role of the NGO, planner,

politician, or lending agency shifts from dictating and facilitating to listening and advocacy (Afshar, 1997). Aid agencies and NGOs alike are supposed to act as catalysts in the empowerment process (Dawson, 1998).

But even development programs that are designed with empowerment in mind may not always prove to be effective. Townsend (1997) argues that research on poor women too often empowers the researcher without bringing tangible benefits to the researched. However, it has been noted that programs that do empower women result in benefits that extend to the entire family (Hedge and Samanta, 1999). Nevertheless, survey-based research suggests that some women believe that empowerment for them is a process which diminishes the power of men (Kaler, 2001).

Although there is no standard index to measure empowerment, the literature is pointing towards effective methodologies to gauge the impact of programs that embrace empowerment (NORAD, 1999). The challenge is to develop systems and procedures to demonstrate the extent to which their program and their investments have produced tangible benefits and concrete improvements. Recently, aid agencies such as Oxfam and its Dutch sister agency, Novib, were engaged in a research program to identify methods and systems for the assessment of empowerment (Dawson, 1998).

Batiwala (1994: 135) identifies three different approaches to women's empowerment: integrated development programs, economic development, and

consciousness-raising and organizing among women. Empowerment through ICT is achieved by supporting individual use of communication power to be used for personal emancipation and development needs (Hermano, 1996). In its most simple form, empowerment means transforming skills into actions to produce a self-determined change. Through a dynamic educational process, women “gain access to new worlds of knowledge and can begin to make new, informed choices in both their personal and their public lives” (Batiwala, 1994: 132).

Empowerment is a process that extends beyond awareness or identifying gender subordination or inequality. The empowerment process organizes groups and individuals around this awareness to actively promote change. Walters (1991: 17) contends that empowerment must begin by “demonstrating to women and men how gender is constructed socially and that it can be changed.” These alternative visions of gender relations open up the opportunity for women to assert themselves, thereby challenging oppressive behavior.

The failure of development strategies of the 1980s was based, in part, on an approach that did not recognize a difference between the “condition” – the material state of poor women – and “position” – the social and economic status of women (Young, 1988). Molyneaux’s (1985) similar critique was based on the idea that women’s practical needs, as well as their strategic interests, must be met. Food, childcare, and education, as well as the long-term strategic needs of women to challenge their subordination in the public and private spheres are of paramount

importance. Empowerment projects, by definition, would have to address a basic need for women, while working towards the greater goal of emancipating women.

Empowerment can achieve social ends, but when embedded in a larger political agenda, it presents some inherent problems. The neoliberal approach towards development requires that individuals embrace the market and learn to cope within the current political and economic structures rather than challenging it (Nagar and Raju, 2003: 3). Expanding computers alone does not guarantee a transformative process and, like some studies on microcredit, may further entrench gender inequality. For example Rankin's (2001) study on microcredit programs in Nepal demonstrated that women's participation was constricted by neoliberalism which confined them to a narrow self-help approach to development. However, projects which do more than just increase access points can do more than just ask women to be facilitators of their own development. My experience is that many outreach programs that attract women towards technology, can, and do, make a difference provided these new agents of development are not to work alone. Only focusing on introducing technology, rather than focusing on primary and secondary education for girls, does not constitute a viable state strategy since it shifts the responsibility of development from the state to the disadvantaged poor.

This has opened up the predicament of what empowerment means to women of the Third World. There is strong evidence to suggest that we should not attempt to create a universal measure of empowerment, since empowerment differs

across people, context, and time (Zimmerman, 1995: 581). I relied loosely on the characteristics and indicators of empowerment used in this analysis from Jejeebhoy (1996), who identified five spheres of empowerment (Table 9). Others such as Hashemi, et al. and USAid have also developed categories of empowerment that are useful in my analysis as seen below in Table 8. Sen and Grown (1985) contend that the empowerment approach must address several realms and would require transformations in law, property rights, and other institutions that perpetuate male domination. These classifications are useful in my analysis and illustrate how the expansion of ICTs may be empowering in one sphere, while disempowering in another.

Table 9: Characteristics / Realms of Empowerment

Jejeebhoy (1996)	USAid / Nepal (1996)	Hashemi et al. (1996)
Knowledge autonomy	Being literate, having knowledge, understanding issues	Political and legal awareness
Decision-making autonomy	Making choices, feeling confident, being articulate	Involvement in decisions
Physical autonomy	-	Mobility
Emotional autonomy	Not tolerating domination	Freedom from family domination
Economic and social autonomy and self reliance	Supporting yourself; having a job	Economic security; ability to make purchases
-	Able to help others; being a leader and getting along with others	Participation in political activities

Sources: Jejeebhoy, 1996; USAid/Nepal, 1996; and Hashemi et al., 1996

So far I have illustrated what empowerment can mean for women, but it is important to recognize that empowerment is a process that is based on the redistribution of power, whether between genders or between nations, classes, castes, or individuals (Batiwala, 1996). Women's empowerment must challenge and transform gender discrimination and social inequality, while enabling poor women to "gain access to, and control of, both material and informational resources" (Batiwala, 1996: 130). Access to resources alone does not automatically change women's positions. Improvements in the physical status of women, combined with fundamental changes in the power relations that subordinate women, will lead to women's empowerment. These standards of empowerment will inform my analysis that follows. The following section will explain the different theoretical approaches to understanding the relationship between development and women and how they have emerged out of the previous discussion of the path of development in the Third World.

How do Women fit into Development?: Women and Development, Women in Development, and Gender and Development

A variety of theoretical perspectives focus on the impact of development on women. Development can be defined as the shift from traditional to modern societies with a push towards the modernization of infrastructure. It is assumed that within development, the goal is to make politics more democratic, the economy more capitalistic, and the society more Western. While these goals often coincide with the expansion of rights and freedoms, a narrow view of development is critiqued for being ethnocentric, Western, and patriarchic.

The connection between gender and development emerged in the 1960s and 1970s because of two international concerns: the women's movement for equal rights, and criticisms of development processes and how they affect Third World people. Women's organizations, especially in North America and western Europe, mobilized to demand for women equal legal rights, expanded access to jobs and other economic resources, a voice in government policies, and shared responsibility by men for household work and child care. In response emerged a new approach to development and the role of women within this process, commonly referred to as the Women In Development Approach. Critiques of development in general led to a revised approach in latter part of the 1970s, know as the Women and Development approach. A final theoretical framework, Gender

and Development emerged in the 1980s and 1990s to bring gender relations, not just women, to the forefront of development projects. These theories are the basis for this study. Below I will review the relevant literature related to these three perspectives and later discuss how each case study relates to these approaches.

Women in Development

According to Boserup (1970), women have been left out of the development process, often experiencing the latent dysfunctions of modernization. Boserup and others who base their theories in Women in Development, are linked with the modernization theory of the 1950-70s. By the 1970's, Boserup and others realized that the benefits of modernization had somehow not reached women and, in some sectors, undermined their existing positions.

The concept of Women in Development and the goal of improving development efforts by incorporating women quickly won acceptance. This perspective was incorporated into policy statements by the United Nations, related agencies, and national governments. The United Nation's International Women's Year in 1975 and the following Decade on Women (Mexico City in 1975, Copenhagen in 1980, and Nairobi in 1985) legitimized women's concerns among government leaders and brought together women from many cultures and countries.

Lourdes Beneria and Gita Sen (1981) criticized Boserup's theoretical framework and model of development for falling within the framework of neoclassical economics. They further refined the Women in Development perspective. Boserup identified an emphasis on preference and Beneria and Sen contend that this constitutes a limited view of the forces that influence the labor market and the process of wage formation. Such is the case with wage differentials, which Beneria and Sen claim are due to job segregation and labor market hierarchies to race, nationality, and gender.

The focus of the Women in Development approach was based on the need to integrate women in economic systems, with an emphasis on women's productive role. For the first time, women's questions became visible in the arena of development theory and practice. However, according to Visvanathan et al. (1997), Women in Development accepted existing social structures and did not question why women had not benefited from development strategies. It treated women as an undifferentiated category, overlooking the influence of class, race, and culture. Furthermore, Women in Development focuses exclusively on productive aspects of women's work, ignoring or minimizing the reproductive side of women's lives.

Women in Development relies on a liberal feminist theory, which accepts the viability and goodness of the capitalist system. It recognizes social inequalities and injustices, but sees them as aberrations that can be rectified with legal and

attitudinal changes (Banderage 1984). For example, the subordination of women in capitalist society can be understood as a deviation from the general norms of equality and justice for all. Moreover, sexual inequality can largely be corrected if women are integrated into the public sphere as equals of men with policies such as the right to vote, the Equal Rights Amendment, and affirmative action. Banderage states that Women in Development is a blend of modernization and liberal feminism, since it assumes that all women can be liberated within the capitalist world system. The overall critique of Women in Development is that it is entrenched within the Western bureaucracy for the development of the Third World (Banderage 1984).

Janet Parpart (1993) sees Women in Development as a call to integrate women into male power structures, to seek women's equality through improved access to education, employment, and material benefits such as land and credit. However, she critiques this perspective, noting that it never challenged gender hierarchies and the ignored possibility that women's development might require social change. Development for Third World women means becoming more western, and more modern and more like men. According to Women in Development, the problems and solutions for Third World women were equivalent to the struggles and concerns of western liberal feminists.

Women and Development

The Women and Development perspective emerged from a critique of modernization theory and the Women in Development approach. This approach draws from dependency theory. This perspective counters many of the central beliefs of Women in Development, such as the need to integrate women into development. Proponents of the Women and Development theory believe that women have always been a part of the development process and, therefore, the attempt at integrating women into development is redundant and unnecessary. Women and Development accepts women as important economic actors in their societies.

However, there are many drawbacks of the Women and Development approach (Visvanathan 1997). Women and Development fails to analyze the relationship between patriarchy, differing modes of production, and women's subordination and oppression. This perspective discourages a strict analytical focus on the problems of women, independent of those of men, since both sexes are seen to be disadvantaged with oppressive global structures based on class and capital. Furthermore, Women and Development does not question the relations between gender roles.

Gender and Development

Criticisms of the limits of Women in Development and Women and Development led to new ways of thinking about development in the 1980s and 1990s. The theories and policies that emerged from this rethinking became known as the Gender and Development approach. The main thrust behind this perspective is that development processes in the Third World are deeply influenced by the inequitable structures of the international economic system, but women and men are not affected the same way. Women do not just need to be integrated into development. Rather, proponents of this theory argue that women have always been integrated (albeit in an unequal way), but the process itself is biased against women. Development programs that do not alter or address repressive class, ethnic, and racial structures hurt both men and women. What is required of development programs is to look at and understand women's intertwined lives that include both productive and reproductive roles. The best way for these strategies to work is not just to target women, but empower them in the process.

The Gender and Development perspective focuses on the social construction of gender roles and relations (Parpart, 1993). It examines the gender division of labor in specific societies, with special attention paid to invisible productive/reproductive roles. Gender and Development reveals issues of power as it relates to gender and strategies for empowering women and challenging the status quo.

Parpart (1993) offers a postmodern feminist critique which challenges the assumption that modernization is necessarily possible or desirable. Since development discourse is embedded in the ethnocentric and destructive colonial (and postcolonial) discourses designed to perpetuate existing hierarchies rather than to change them, it has defined Third World people as the “other.” Parpart argues for a new form of development based on knowledge and need of Third World peoples, rather than development agents.

Similarly, the Gender and Development perspective challenges the oppression of women on many levels and addresses the social relations between men and women (Young, 1992). Furthermore, this perspective recognizes that patriarchy operates within and across classes to oppress women. By focusing on strengthening women’s legal rights, it talks in terms of upsetting the existing power relations in society between men and women. The strategic emphasis for development is to make women into active agents in the process, specifically through empowerment. This perspective holds the most potential to bring true change to development for both men and women since it goes beyond simple economics and values social and individual needs.

The main differences between the Women in Development and Gender and Development theories is based on how each perspective approaches women’s unequal position in society. The former looks at women to become more like men to improve women’s unequal position. By incorporating women into the existing

modes of development, it is believed that women will reap the benefits of development in the same way as their male counterparts. Gender and Development, on the other hand, contends that women's status is best addressed by looking at the relations between men and women, something that cannot be resolved by traditional development strategies alone. It is not enough to simply incorporate women for proponents of the Gender and Development perspective. Rather, they see gender as a crosscutting issue that influences the economic, social, and political lives of women and men.

The organizations selected as part of the case study fall into the Women in Development, Women and Development, or Gender and Development theoretical model. As we will see in the following chapter, most of the organizations I studied look at women being an important part of development, but fail to recognize the ways in which gender plays a role in the greater society. Given past studies in the literature, I hypothesized that the programs that go beyond just transferring computer skills, to actually addressing social and cultural issues in the home and labor markets, will be more successful at encouraging empowerment. By promoting empowerment, individual women are better equipped to deal with the gender-based inequalities they face at home, at work, and in their communities.

In this chapter I have presented the literature on women and their work in the context of development. I have also described the three theoretical perspectives relating to development and women. This research makes a primary contribution

to the Women and Development literature since this dissertation focuses on how women fit into the goals of development schemes. In addition, this dissertation specifically analyzes how one development approach, computer-based educational skills training, addresses women's issues in Latin America. In the following chapter, I will present my methodology and introduce the six organizations that are part of the case study.

CHAPTER 3: METHODOLOGY

My interest in the experiences of women during and after computer courses came out of a project I developed during my Master's work. For the thesis, I conducted research in Nueva Vida, Nicaragua, focusing my work on an ethnography of the lives of thirteen women who were working as sex workers. During the long hours of interviews and participant observation, I asked my respondents about how their lives could improve and what they needed in order to do so. Several women spoke about the lack of formal education, particularly for poor women in their community. With soaring unemployment rates in Nicaragua, it is necessary to have formal secondary school education or related skills in order to obtain formal work. While the informal sector provided them with some opportunities, these types of jobs provided them with inconsistent income, often too little to support their children. A combination of these factors led these women into sex work. While a completed secondary school degree could take up to two

years, some women felt that they needed the immediacy of fast solution. Rather than completing a high-school equivalency, they thought specific or focused training could be more beneficial. Many women mentioned that computer skills could serve this purpose. This, they thought, could open the doors to the formal market, providing them with a decent job with decent pay.

When I left Nicaragua in August 2000, after several months of fieldwork, the thirteen women were enrolled in a computer class offered by an existing educational organization in Nicaragua. I told them that I would find a way to pay for their tuition and fees, while also paying for child care and transportation costs. This way, there would be no financial barriers preventing the women from taking advantage of this opportunity. So when I returned to my home, I started a non-profit organization, School For All, to accept donations to support this group of students. It was also my goal to fund more women in the community.

Since 2000, School For All has been continuing its activities with women of Nueva Vida. In 2002 we extended opportunities to over twenty women to take a computer course at a private institute in Managua. I visited with the women during and after the course. I conducted informal interviews and focus group discussions about their experiences. During pre-dissertation fieldwork in the summer of 2002, I spent time discussing with the women the successes and failures of our program. While none of the women at that time had found a formal job utilizing their computer skills, very few were still involved in sex work. The women commented

about how the course had changed their outlook on life. There was a unique set of events that unfolded as the women were in school: they increased their self-esteem and self-worth and felt more responsible, giving them confidence to apply for jobs. The relationship with their children also changed from one of little focus on education, to one where the mothers were setting aside time daily to go over homework and other assignments. The women believed so much in how education was their ticket out of the life they were living, exemplified by the change in their attitudes and actions after only a short period of time that they were encouraging their children to stay in school and study. This is very different from the traditional views of education among these poor women who thought that school was a place for children to play and be out of their care for a while. Before, there was no time spent on homework, especially because the mothers felt inept to assist their children. But now, the women felt that they did possess some useful skills and felt differently about their role as mothers and educators for their children.

The people of Nueva Vida are accustomed to handouts. I believe that part of the reason that this community has not mobilized on many fronts and continue to live without jobs and access to resources is that they are expecting others to do it on their behalf. In the 1980s, during the Sandinista revolution, poor communities relied on their comrades to bring not only peace, but food and shelter. With the fall of the Sandinistas in the 1990s and the revisit towards self-help perspectives, with little support of the government, the poor turned towards NGOs as their safety net.

After Hurricane Mitch, the victims looked to governments and NGOs at home and abroad for help. While Nueva Vida was created as a relocation community for hurricane victims, most of the women in the School For All project came at their own free will, because the government was providing titles to land and NGOs were providing food, shelter, and clothing. Even five years after the hurricane, the women still feel that the government and NGOs are not doing enough to help them. This has created a culture of poor people expecting hand-outs rather than mobilizing together to foster change in their communities or their homes.

School For All was different. While we offered the women an opportunity to study, educational endeavors, by nature, require individual motivation. These women put personal effort into their studies and, as a result, learned a valuable lesson about education. But this also begs the question of whether there is something particular about computer classes, or just education in general, that change the lives of poor women. If so, then this is good evidence to suggest the continuation of School For All and the expansion of the hundreds of computer-focused development programs in the region. This question, with others, became my dissertation project.

Pre-Dissertation Fieldwork

My pre-dissertation fieldwork experience in the summer of 2002 paved the way for this project. I met with several NGOs in each country and finally selected two programs each in Mexico, Costa Rica, and Nicaragua that have a diverse set of characteristics, such as location (urban versus rural), size of organization, funding source (external versus internal), organizational leadership (grassroots versus top-down), and target population. These are important aspects to consider when evaluating the impact of a program. Since all of these programs focus on poor women, the largest group of impoverished people worldwide, I believe that all of these case studies will highlight the commonalities that exist in the struggles of women in general and other Third World women in particular. These case studies may also provide some insight into the experiences of oppressed groups found in the US and other developed countries (Lucas, 2001).

Before my pre-dissertation work, I researched potential organizations over the internet and found several regional sites that discussed computer expansion through education. I also utilized several professional contacts in the region. While this gave me a solid list of organizations that were involved in educating women, it also provided me with a good overview of the types of activities that were occurring throughout the region. During my pre-dissertation work, I visited several organizations in each country. The six organizations that became the backbone to

this case study were chosen for several reasons (see Table in Appendix 1). First, it was important to select organizations that would provide me with a diverse understanding of the types of organizations that were involved in educating women. In this sense, I was particularly interested in looking at both public and private organizations with activities in both urban and rural areas. Second, I wanted to focus on how the divergent philosophies of organizations impact the outcome. Lastly, because of the richness of data that can be collected cross-borders, I wanted to focus on more than one country in the region. What follows is an effort to provide an overview of the participating organizations in this study.

Costa Rica: Omar Dengo Foundation

One of the organizations selected in Costa Rica, the Omar Dengo Foundation, is a private non-profit founded in 1987 to “promote the economic, social and human development of Costa Rica, implementing innovating programs to improve the quality of education” (Omar Dengo Foundation, 2002). The organization has been expanding computer technology in educational environments such as schools, in both formal and informal settings. The foundation is best known in international circles for their work with the public

school system throughout Costa Rica since 1990, when the government outsourced all computer-based learning strategies to the foundation.

The project that is central to my study is el Programa Informática para Todos (PIT), or the Information Program for Everyone, which focuses on small and medium-scale women-owned businesses. Beginning in 1999, the Omar Dengo Foundation created satellite classrooms throughout the country providing computer courses for a nominal fee to working women. They aim to encourage and promote business through the incorporation of technology. Rather than learning Word, Excel, or the Internet in an abstract manner, the foundation's goals are to teach the fundamentals of business using the computer as a tool. Therefore, when the students are learning the importance of budgeting or creating a business plan, they are encouraged to use an Excel spreadsheet. Likewise, they are taught how to use Microsoft Publisher as a way to create advertisements.

Although the Omar Dengo Foundation is renowned in the region for its work with children and adolescents (reaching over 250,000 students in pre-school through elementary school and over 700,000 students in high school), it ventured into its work with adults with a grant from the World Bank. One of the first courses graduated 107 women in February 2002. The Foundation has recently focused their efforts outside of the central San José province since they have observed a heightened rural / urban divide. Rural women, in particular, have

experienced increasing marginalization due to unequal access to services such as health care and education.

The organizational philosophy rests on technology as key to development. For the foundation, “democratic access to both learning and technology becomes a fundamental precondition to equitable development” (ODF web page, 2002). The director also notes that the organization has been an integral part of economic development by promoting change away from an agricultural driven economy to one that is driven by technology.¹

I was in communication with the Omar Dengo Foundation before I arrived in Costa Rica to discuss my role within the organization. At first, I proposed that I work directly with students within the context of the course, fulfilling a role as an assistant within the classroom. This would certainly allow me to build a rapport with the students. At the same time, it opened up several ethical dilemmas, some of which were discussed during my proposal defense. These concerns, together with the postponement of the course start dates, changed my role. Rather than working as a volunteer having direct access to students, the Omar Dengo Foundation placed me within the research and investigation department. For several months, I volunteered for the organization by carrying out a final evaluation of the first course completed in 2002 by interviewing past students, creating better survey tools for questionnaires used to select students, and

¹ personal interview 7/3/02

developing better evaluation methods. This information was used by the foundation to formulate new goals and address issues prior to the 2003 course that did not start until September, six months after the proposed start date. Because of this change, after completing the first round of fieldwork in Costa Rica, Mexico, and Nicaragua, I returned to Costa Rica to have access to those students who had started the course in September.

During three months of fieldwork in Costa Rica ending in May 2003, I conducted over twenty in-depth, semi-structured interviews of past students nearly a year after they finished the course at the Foundation. I also conducted two focus group discussions with a total of twelve former students. During the second wave of fieldwork, I conducted an additional five focus groups with a total of thirty-three participants. All of the interviews and focus groups were tape recorded and later transcribed. These interviews were augmented by participant observation at the homes or places of work of the respondents. In these personal venues, I was able to see the women in action and further understand how a computer course had or had not benefited them in their personal and professional life. Because the participants in this study were promised anonymity, individual names and identifying characteristics will not be disclosed.

Most of the participants first heard about the course from the many sources of advertisement, including newspaper, radio, and television. The application process consisted of submitting documentation of their small business, completing

a survey about their current knowledge and experience with computers, and being interviewed by staff from the foundation. In order to extend the course to a more diverse group of women entrepreneurs, the foundation identified and notified groups of women working in associations or cooperatives in some of the rural regions. All prospective participants were required to demonstrate the existence of an established business, regardless of size or formality, such as an invoice, business card, or a customer contact to vouch for the business. The final group of selected participants was diverse in terms of the varied businesses represented and the provinces from which the women came.

Courses were offered at six different locations nationwide, with two classes being held in the capital city of San José. Around sixty percent of participants were from a region other than the central province. Most of the women had small, product-oriented businesses, such as sewing school uniforms, selling imported clothing, or making *cajetas*, typical caramel sweets. Few women were in charge of larger businesses, such as restaurants or souvenir shops. While most women worked alone, some worked in partnership with their spouses and some had employees. In general, most of the women viewed their business as a result of their individual effort, rather than a joint or family venture. From my sample of sixty-six respondents, most participants from the urban areas were working and middle-class, while the participants in the rural areas were predominantly lower-income, the added income from their businesses being critical to the well-being of the

family. None of the women self-identified as indigenous; rather they tended to think of themselves in terms of nationality – they all spoke Spanish as a first language and were proud to be “Costa Rican.”

The foundation provided me with a list containing the contact information for all of the participants in the pilot and the first course. I contacted some of the participants by phone, at home, or at their place of work. Some meetings with respondents were set up by other participants, thus creating a snow-ball participant pool. My goal was to speak with women that represented all of the geographic areas covered by the pilot. I introduced myself as a US graduate student conducting an external evaluation of the course for my dissertation. I was aware of the ethical/political implications and power inequalities inherent in my positionality as a white, US-born woman working with mostly poor, rural, brown, and underprivileged women in Latin America. By building individual relationships with the participants in their homes and communities, I was able to build a strong rapport with my respondents, demonstrated by their openness and honesty.

Both the interviews and focus groups aimed at gaining a better understanding of the woman’s individual experience in the course and how, and in what ways, her personal and professional life had changed after taking the course. I was most interested in what parts or aspects of the course, if any, had a measurable impact on her business and personal life. Through these conversations, it was evident that many non-tangible changes have occurred, particularly in the

area of self-esteem. Therefore, many questions focused on these changes and how they manifested in the participants' personal and professional lives.

The Omar Dengo Foundation's course for entrepreneurs falls into the Gender and Development theoretical perspective. This organization sees it as their goal not just to focus on women, but address issues that affect women because of ingrained structural and social constraints.

Costa Rica: National Institute of Learning (INA)

The second organization I selected in Costa Rica is the FORMUJER section of the National Institute of Learning (INA). This continuing learning program for non-traditional students, financed by the government, but independently operated, trains both men and women. The FORMUJER office was created to oversee the expansion of classes to women. For programs, such as bicycle repair, where the number of women is substantially underrepresented, women are provided a full scholarship. Others, such as advanced beautician training, carry a nominal fee. Along with workshops that adults take while they are working, INA also provides a two and a half year high-school equivalency program for students between seventeen and twenty-one years of age.

Recently, INA has been focusing on the expansion of computer classes and on integrating computers into non-technological classes. Patricia Cárdenas, coordinator for FORMUJER, believes that the technology courses provide the best hope for individuals seeking increased access to employment. However, Cárdenas states that although Costa Rica has been recently pushed into the technological world, the workers of Costa Rica are lagging behind, especially since often only those who have completed their third year of high school can take advantage of the new jobs and industries prompted by the advent of technology.² Since this program relies heavily on government funding, I believe that this program provides an important comparison to the private organizations in this case study. Furthermore, while there is an effort to incorporate women, this is one of the programs that is part of this study that does not offer classes exclusively to women, nor does it have explicit gender-goals.

Nearly all of the advanced courses are offered at the central campus in San José. However, I focused on two locations in the urban outskirts of San José: Alajuelita and Turrialba. These locations are very different from the main location in Paseo Colon in San José, as first noted by the lack of infrastructure. While the San José center was a high-rise business-like building with dozens of classrooms and technology labs, the Alajuelita *taller* had one computer lab/classroom and one classroom for textile classes while the Turrialba location had a computer lab and a

² personal interview 7/4/02

mechanics garage. Many home-economics and vocational classes are taught at these smaller locations, while the technological-based courses dominate the city location. While this public institution offers all courses free of charge in all of its locations, there is also a stark difference between the students who attend the city location versus the outlying *talleres*. Most of the students taking courses in the center location are preparatory or university aged students taking courses to prepare for the university or to increase their chances of getting into a university. The smaller *talleres* are dominated by high-school drop outs and non-traditional students. The students here live close to the *taller*, which makes it possible for them to take advantage of the course. Regardless of location, all computer courses have waiting lists, and only forty students are taught every three months at the *tallers*.

I gained access to these two locations via the FORMUJER director, Patricia Cárdenas. I then worked with the directors at each location and through them, I was able to meet the instructors. I was then introduced to the students. At the Alajuelita location, the instructor introduced me in front of his class and allowed me to give an introduction about my study to recruit respondents. Because of the overwhelming response I received, I decided to conduct four focus groups, nearly exhausting all of the female students. I scheduled the focus groups either before or after their classes met, thereby increasing the likelihood that the participants would follow through with their commitment. I also provided lunch,

snacks, and travel coupons for the students. This was a very effective method for recruitment, since only three students did not participate after they signed up. The instructor allowed me to use the classroom to conduct the focus groups. While conducting the focus groups at the organization was not ideal, there was no other location that would have produced such a high attendance. The students appeared to feel comfortable discussing their opinions about the teacher and organization on tape during the focus group, as long as the door remained closed. At the beginning of all focus groups, I always described the importance of anonymity to all participants. The women often would reiterate what I said and clarified ideas to others such as, “that means what you say in here, I can’t go out and tell anybody else,” or “it remains between us, between us women in the group.”

The process was a little different at the Turrialba location since there were only a few computer classes that had just started, with few students, and only around fifteen women. I was able to interview twelve of them. The center allowed me to use the office of one of the directors to conduct interviews. At this location, I had limited access to the students because the instructor arranged the interviews on my behalf. This recruitment method was rather ineffective. Since I did not have the opportunity to get to know the women very well prior to the interviews, I sensed a separation between us.

The primary goal of the National Institute of Technology is to expand educational opportunity to more Costa Ricans, primarily those disadvantaged

because of their social status. The FORMUJER office works to incorporate more women into the larger development strategies set forth by this governmental entity. Therefore, INA would be categorized as taking a Women In Development approach to integrating more women into their programs.

Mexico: Som@s Telecentros

The Project Telecentros, Ciudadanía y Gestión Municipal is part of the Som@s Telecentros (We are Telecenters) consortium, which is one of the many telecentros across Latin America, including Ecuador, Peru, and Colombia, funded by the Canadian Development Bank. The three locations in Mexico are situated in a rural area north of Cuernavaca, the capital of the state of Morelos. The largest of the three sites is in Tlayacapan and operates with seven computers. These three centers focus on child, adolescent, and adult learning. One of the most successful programs has been the afternoon schools and vacation camps offered for elementary students. During a private interview, the director expressed to me that “rather than operating as an independent Internet café, the telecenters offer guided / assisted learning on the Internet.” However, over several months of fieldwork and observation, this was not my exact interpretation. The two telecenters that

were in operation during my time in the field, Tlayacapan and Totolapan, operated predominately as internet cafés, providing open hours for people to gain access to computers and the internet, rather than focusing on the educational aspects of computers. They also had a large number of “customers” from the community who brought in documents to be typed and/or printed, and even school-aged adolescents who asked the telecenter to type up homework assignments.

During my pre-dissertation period in Tlayacapan, I worked closely with the director to finalize my project. My goal was to be involved in programs that focus on training women involved in two special labor sectors that have risen out of community need. The two projects that were supposed to be underway focus on women tomato producers and child care providers. The former focuses on integrating computers into an approach that enhances women’s access to and capabilities with computer technologies to assist with their tomato production. For example, the women may be able to use the Internet to look at an extended weather forecast to prepare for drought or rains. Likewise, the Internet holds useful up-to-date pricing information so that the tomato producers can look at the value of their produce on a local or global scale. The director of the program, María de la Paz Silva, believes that it is the process, not the reliance on computers or foreign technologies that proves central to the success of the program³. In other words, the courses promote solidarity amongst the participants and encourage self-esteem.

³ personal interview 7/24/02

These improvements outweigh the measurable improvements resulting from computer technologies alone. However, during my months in Mexico neither of these programs, or any other, had actually been started and there were no plans in the future to get them started. While this organization has a unique theoretical approach to the application and expansion of computer technologies in rural areas, it seems plausible that they are unable to implement them into practice. One reason seems to be the organizational structure, based on a strong leader and decision maker who does not live in the community. Another reason is that some people in the community actually reject computers and do not feel that they are an important tool for them. A final reason is perhaps that they have not developed a good method of integrating computer technology in rural areas. Some of these problems became challenges for me when I attempted to conduct interviews and focus groups.

Since there were no specific courses for women, I arranged to observe some evening classes, which typically were dominated by women. I attended the first sessions of the three sections that, in the end, were cancelled because no one enrolled. There are many reasons why people in the community may not enroll in computer classes, and an overwhelming reason is money. While these courses cost slightly more than US\$20 per unit, they are unaffordable for most individuals in this community who rely on agriculture, predominately nopal and tomato production, to support their families. While men are often responsible for tending

to the fields, most women are involved in domestic chores, making it difficult for women to remove themselves from these responsibilities to take a course.

Since I was unable to speak with current students, the telecenter provided me with a list of past students. Since their database was not wholly accurate, it left me with a population of forty-six women, age eighteen and older, who participated in a course since the inception of the telecenter. I began by visiting some of these women at their home or, for a few of them, their place of work. Nearly all of the women who elected to take the course were students. Since there is no schooling other than primary school in Tlyacapan, these women commuted to Cuernavaca or Cuautla, the two largest cities in Morelos. Some lived in Mexico City during the week and returned home for the weekends.

I conducted a few interviews on my own, locating the homes of the women myself. This became a tedious strategy. Since almost no one had a telephone, it was the only way I could make initial contact myself. I hired one of the past teachers, Yeni, to help me recruit participants for interviews and focus groups. Yeni invited twelve participants for the first focus group. Since there were few public spaces in Tlyacapan, other than the central park and market area in front of a church, I decided to rent out the top floor of a local restaurant. The focus group was scheduled from 4PM – 6PM and we had twelve participants confirmed. By four, not a single participant had arrived. Four thirty and five passed as well. At five fifteen, the first participant arrived. At five thirty, we started with only five

participants. This focus group turned out well and, unfortunately, it was my last in Tlayacapan.

Over the next few months in this community, I was able to conduct fifteen interviews and only one focus group. With the help of Yeni, we organized another three focus groups. For the first attempt, Yeni and I created invitations that were hand-delivered to each woman. On the second attempt, we did the same, but rather than inviting twelve, we invited twenty-two, hoping for a better turnout. On the final attempt, we created invitations for an information session. I thought that perhaps women in the community felt uncomfortable or intimidated by the formality of a focus group. Hence, we decided to invite them women to a dinner held at the telecenter. We created initiations, hand-delivered them, and confirmed attendance. We invited all remaining women, plus a few that had been invited before but declined due to a previous commitment. Unfortunately, this final attempt did not yield any participants. Over the course of several months, we tried to change our strategies from a formal focus group gathering to an evening of fun at the telecenter. I also tried to change the time of the meeting to accommodate those who had standing commitments. I was able to talk with several women who confirmed, but did not show up to the prior focus group. All of them indicated that they had too many responsibilities in the home that prevented them from leaving. A few women said that they had intentions of coming until they explained where they were going to their spouses. In the end, many women were not allowed to

attend. Many of the women who participated in the focus group or an interview indicated that they experienced difficulties in leaving the home because of pressures from their husbands, so this information was not a surprise. In the end, I was able to complete as many interviews as possible. I believe that the time I spent at the telecenters, observing and carrying out informal conversations, gave me a good grasp of the experiences of women overall.

While the telecenters are providing a unique solution to the lack of computer access in rural areas, it has failed to address many important factors in how computers and computer-access is used by the population. Further, the larger development goal of increasing access is paramount beyond addressing practical or strategic gender needs for women. This organization is part of the Women In Development perspective.

Mexico: Cisco / UTVM

The second organization I selected is a large-scale program created and funded by a US corporation. Cisco Systems is one of the leading creators of high-end network components including servers, firewalls, routers, and switches, mostly used by businesses. The corporation created the Cisco Learning Program with sites

around the world, including over 10,000 students in two-hundred and fifteen “academies” in Mexico alone. The Cisco Certificate program is offered at accredited vocational schools and public and private universities.

There is a strong focus on integrating women into technical degrees. The Gender Initiative of the Cisco Program works towards the goal of 50% female student enrollment and 50% female representation amongst administrators. While Cisco has carried out a preliminary summary of their gender initiative, they hope that I will be able to provide them with more specific and case-study oriented results. Through my contacts with the Mexico City office, I was put in contact with the coordinator of the Universidad Tecnológica del Valle del Mezquital (UTVM) in Hidalgo. Cisco-Mexico felt that this was an important center to study because of the high percentage of female students and because of its location in a predominantly low-income area. In addition, many of the students are part of the local indigenous population.

Cisco is an important organization because of its large scale and foreign business funding. In addition, while they focus on lower and middle class students, most of the students have formal education through secondary school. The Cisco Certificate and related degrees are formally recognized on a global level, whereas the other programs offer “diplomas” which carry no weight in the “real-world.” Although Cisco has a gender initiative and a strong focus on incorporating women, they have the lowest female representation amongst all of the organizations.

During my time in Hidalgo I was able to observe classes at the institute. I also had a lot of institutional support, which facilitated the focus groups and interviews. I was allowed to use the conference room in the Informatics building and the instructors helped me recruit participants. Only a few students chose not to participate in a focus group or interview, often because of a previous commitment. The participation rate was highest here. For example, I scheduled twelve participants for each focus group, based upon my other experiences in Mexico, hoping for at least eight participants. In the end, I conducted four focus groups, each with eleven participants. I also conducted sixteen in-depth interviews. One of the reasons why I believe that I had such a good turnout was because most of the students spend six hours a day on campus. Because the interviews and focus groups were scheduled during free slots in their day on campus, it made it very easy for them to attend. Also, since most of the women were not much younger than me, we were able to build rapport quite quickly. During my free time, I often sat in the foyer sitting room and assisted students with English assignments or conversation. I quickly became well known in the school.

The Cisco program, through the Gender Learning Initiative, has set forth goals to bring more women into the technological field, but transform women's roles with it. By setting standards of female instructors, incorporating alternative pedagogical approaches, and requiring internship opportunities, Cisco's Gender and Development approach assists women in overcoming structural constraints.

Nicaragua: School For All

My master's thesis explored the lives of twelve women who had begun sex work in order to survive the new and varied challenges presented to them after resettling to Nueva Vida after Hurricane Mitch. I relied on activist research by exploring solutions for these women's difficult problems. It was suggested by a woman during an interview that they needed skills to obtain formal work. I used an activist perspective as the women and I explored possible solutions to this problem. The result was to provide scholarships to the group to attend a computer training school in Managua. Twelve women entered the program in August of 2000 and we have now expanded the opportunity to other women in the community. My role as researcher is not relegated to merely collecting data, but also positively impacting the people and community.

One important aspect of School For All is that the idea of formal education originated from the women themselves. As part of my social activist approach to research, I focused a portion of my research questions on solutions. I did not want to only ask my participants questions that focused on the nature of their work or their feelings after being internally displaced. Rather, I was also interested in knowing what they saw as opportunities for improvement in their lives. The women I worked with are very bright and strong. They are very aware of their situation and conscious of the complex dynamics that made them poor in the first

place and then further marginalized them to this new community. In this way, they were very creative in articulating ways in which they could improve their own lives if given the skills or necessary tools. During the first round of interviews, Deborah, one of my respondents, mentioned that she only finished fifth grade. “If I had finished school, then maybe I would be able to sell my mind, my knowledge, rather than selling my body” (Lee, 2000: 91). In a country with extreme rates of unemployment, even among the educated, Deborah did have a point. What if these women had skills that they could capitalize on? Would they be able to leave the unreliable world of the informal sector and break free of living in extreme poverty?

Upon my return from fieldwork, I co-founded School For All, a non-profit organization, with the goal to promote progressive change in the community of Nueva Vida through education. The mission of this organization is to “assist educational programs, organize and promote volunteerism, support meaningful learning experiences, and encourage cross-cultural understanding” (SFA homepage, 2002). Therefore, we endeavor to empower women in Nicaragua through education, but we also strive to educate citizens in the United States about global issues.

Although the focus remains on training a targeted group, our long-term goal is to promote an array of educational and vocational training to the men, women, and children of Nueva Vida. By providing them with the opportunity to

gain skills that are important in urban settings, School For All hopes that they will use their ingenuity to spark a flourishing economy in Nueva Vida.

School For All is a non-profit organization based in Austin, Texas, but our project remains in Nueva Vida and is managed by a full-time staff member that lives in the community. Beyond the tuition and fees, we also provide transportation, child care, and a small food allotment during the days students are in class. All of the women are studying micro-computers so, upon completion of their degree, they will be ready for most entry level positions that require computer literacy. Many will also have skills to start their own business. Their course of study includes the history of computers, introduction to hardware and software, basic accounting, and management skills.

I returned to this community to conduct interviews and focus groups with the participants. These were different from others because of the strong rapport I had built with the women over several years. This not only facilitated access, but proved important since it led to very rich data. During my fieldwork in Nueva Vida, I conducted two focus groups with twelve participants and three interviews, nearly exhausting all of the participants in this program.

The primary goal of this project is to address gender issues that continue to repress women. Part of the way that his organization has been able to do this is through the educational process of expanding computer skills to women. This

Gender and Development approach specifically tries to address patriarchal structures and promotes policies that challenge fundamental inequalities.

Nicaragua: National Institute of Technology (INATEC)

The final organization I selected was INATEC, the National Institute for Technology. This functions very much like their Costa Rican counterpart, INA. I conducted focus groups and interviews at two locations in Managua – Manuel Olivares and CECNA. At Manuel Olivares I was given access to the students before class time in order to schedule interviews and focus groups. The school provided me with a classroom. I scheduled focus groups either immediately before or after class time, providing the participants with lunch or dinner. The interviews were also scheduled around class time. This was very important, since it reduced the number of no-shows. At this location, I conducted two focus groups with fourteen participants and eleven interviews.

At CECNA I worked with the director who scheduled contacts on my behalf. This location had only two courses in session with only twelve women, limiting my access to only a few students. As a result, I conducted two focus groups with eight participants and only one interview.

The average age of students at both locations is around twenty. Most of these students are recent graduates of the *bachillerato* degree. Nearly all of the students come from a working class background, some finding it difficult to afford transportation and other costs associated with the computer course. Some of the students are already professionals, taking the course because of recent work requirements.

Both centers have rather poor infrastructure, which does not seem to be a concern for the students. The students come to take computer classes here, rather than at private institutes not only because of the low cost, but also because of the notoriety of the institute. The computer classes, however, are centrally located in Managua, with very few technological resources being distributed to the other urban areas within the country. INATEC does have plans to expand to other regional centers, but given the financial constraints of the organization, coupled with the immature infrastructure in areas outside of Managua, the success of widespread expansion seems bleak. In the meantime, those students in Managua who fulfill the entry requirements and await course openings for the computer classes will benefit. Those who do not meet the educational requirements, or who live outside of the capital district, will continue to be left out of this opportunity.

INATEC works to integrate women into the technological realm and maintains this as their primary goal. Through a Women in Development

perspective, INATEC ensures women's participation in technology and thus focuses on their role as recipients of development.

Methodology

During the proposal defense, my committee presented a matrix of how many interviews and focus groups I should conduct, as shown in the Proposed Matrix below (Tables 10 and 11). While I attempted to conduct as many interviews as suggested by the committee, I ended up conducting many more focus groups. I did this because I found that the focus groups provided very rich data. In circumstances where I did not have a strong rapport with the respondents, the focus group scenario proved to make them more comfortable being amongst their peers. The focus groups unfolded as a conversation amongst the participants, who often debated about the pros and cons, the experiences of men versus women, and about the benefits and detriments that computer technology brings to their communities. While each focus group was scheduled for two hours, including a half hour for IRB signatures to be collected and time to introduce the topic, most were pushed to that hour and a half limit and many went over. Speaking with women after the focus groups, I learned how important the experience had been

for them. A respondent from the final Omar Dengo Foundation focus group told me that she had never experienced anything that made her feel so close to other women. Another respondent told me that hearing about the experiences of other women inspired her to continue her computer course despite troubling times.

Table 10: Proposed Matrix

Country	Organization	Interviews	Focus Groups
Costa Rica	INA	15	2
	Omar Dengo Foundation	15	2
Mexico	Cisco	15	2
	Telecetros	15	2
Nicaragua	INATEC	15	2
	School For All	15	2
TOTAL:		90	12

Table 11: Completed Matrix

Country	Organization	Analyzed Interviews	Analyzed Focus Groups
Costa Rica	INA	15	4
	Omar Dengo Foundation	15	7
Mexico	Cisco	15	4
	Telecentros	15	1
Nicaragua	INATEC	15	4
	School For All	15	2
TOTAL:		90	22

I hope that this research project will incite interest for sociologists through the varied research methods used and the narrative that unfolds. Rather than the top down, unidirectional model of conventional research, I advocate social research as an exchange between the different stakeholders involved, thereby facilitating a better understanding of the individual circumstances of each woman/student. I built rapport with these women through in-depth interviews and through participant observation at the organization and in their communities. The interviews and focus groups offer concrete “data” in the form of transcribed tape recordings.

Rina Benmayor (1991) contends that minority and feminist scholars have challenged the traditional disciplinary paradigms by asking, “research for whom?” “how is it conducted?” “whose voice is privileged?” “don’t the researched also interrogate the researcher?” She believes that this has forced the academic community to continually question the relationship between investigation and the needs and the rights of people. Activist scholarship intrinsically establishes a closer relationship between scholarship and community empowerment, thus “shifting the traditional locus of power and voice in research away from an exclusively academic base” (Ibid: 15). Benmayor suggests that the act of collecting testimony has the potential to greatly impact individuals and collectivities by promoting empowerment. I believe that through my research, the in-depth interviews and focus groups that I conducted during my field work will

empower those who participate to reflect on their experiences and brainstorm ways in which the programs could be more useful to them. Allowing women to speak and share their life experiences and discuss the challenges and tribulations that they may now be facing can be empowering (Sen, 1998). Benmayor stated it best when she wrote, “research has an obligation to create social spaces in which people can make meaningful contributions to their own well-being and not serve as objects of investigation” (Benmayor, 1991: 22). Therefore, conversing with researchers about problems is not wholly empowering, but rather working in collaboration with the research in search of solutions to their problems is. This project will be based on reciprocity by allowing women to make meaningful contributions to the project and working collaboratively to achieve the common goals of strengthening the collectivity.

I believe that there is an opportunity to utilize an activist approach when studying this topic. First, this research question points to a gendered component of particular actors at play in a given community. In many ways, the act of a woman using computer technology can unearth many gendered tensions within a typically *machista* society. By working with women who wish to obtain an education or enhanced skill, we are working to counter the stigma that women should remain in the home or be relegated to particular jobs within a society. Further, we are looking to empower the women through this experience.

Second, the research question begs to be analyzed on a global level. The poor of Latin America are struggling against a global force larger than themselves or their own nation. Part of the research will focus on how computer technologies can be a mechanism to either fight against globalization or work within it. The World Bank claims that computer and information technologies have the potential power to rid the world of poverty. But in what ways do they need to co-opt communities, ethnic groups, women, and the poor to achieve their goal?

Through this activist oriented research project, I worked with the organizations to promote their goals and help them search for new or improved methods. I am also applying what I learned in the context of my ongoing activist project, School For All. I hope that I will be a resource for the women who are currently enrolled in computer training classes, as well as share their voice and experiences in this dissertation.

Semi-structured Interviews

Through semi-structured interviews I encouraged the “respondent” to ask questions as well. I attempted to make the interview an empowering experience for both respondent and myself. The goal of ethnography is about how “two sides of an encounter arrive at a delicate workable definition of their meaning” (Crick, 1982: 25). I encouraged respondents, or the reciprocators, labeled by Steier (1991), to lead me on a journey of knowledge and understanding.

All formal interviews were tape recorded and later transcribed. In Mishler's (1986) *Research Interviewing*, he outlines guidelines for analyzing interviews and suggests the importance of transcribing interviews. In order to follow with the stages that follow data collection, such as coding, analysis, and interpretation, it is necessary to have a "carefully prepared transcript" (Ibid: 50). Therefore, all interviews and focus-group audio tapes were transcribed. The components that were integrated into the final dissertation were translated from Spanish, and are my own to best reflect the exact prose and meaning of the quote.

During my time in the field, I selected several respondents for individual interviews. At each organization, I attempted to identify women with whom I had built some rapport for the interviews. The interviews took place either at the organization, the woman's home, or place of work. Most of the interviews were between thirty minutes and one hour in length.

Whereas the focus groups, as discussed below, focused heavily on group perspectives and experiences, in the interviews I was able to delve into the specific ways the individual's life was impacted by the computer course. It was during the interviews where many women opened up about the challenges they face at home, particularly because of dominant male partners. And because the majority of interviews took place in the respondent's home, it also gave me good insight into the lives of my respondents. I had several opportunities to spend an extended amount of time with the respondents.

While the formal interview may have only lasted an hour, I often spent the entire day with the woman. On one occasion, I worked at the woman's store front business, catering to the school-aged children who came daily to purchase school supplies. In Liberia, Costa Rica, I learned how to make *cajetas*, or typical caramel sweets that Josefina made in her kitchen to sell. And in Tlayacapan, Mexico, I spent a day with a woman and her young children going about their daily chores and trip to the local market. All of these experiences provided me not only with rich participant observation data, but also a very fulfilling experience in the field.

Focus Groups

In addition to individual semi-structured interviews with students, I carried out focus groups at each location (more a more extensive discussion on my experience with focus groups, please see Appendix 2). These focus groups consisted of approximately five to twelve students. Anonymity was guaranteed for the respondents. This was very important, particularly because some of the women chose to share their feelings about the organizations. Upon entering the room, I asked each participant to read the IRB forms and I reviewed the content with them. After the participants read and signed the forms, I provided them with an introduction to the focus group. None of my respondents had ever participated in a focus group before, so it was important for me to explain the purpose, outline the expectations, and answer any questions or concerns.

Focus groups are an important sociological method that probes individuals' feelings, beliefs, and experiences about group actions. When carried out well, focus groups become a conversation amongst the participants. The moderator acts as a semi-participant by offering guidance to lead the group through a list of pre-determined topics. The focus groups that I moderated were very successful in that the respondents easily took to the topics at hand and were able to discuss the issues in a very open and candid manner. Focus groups were a particularly sound choice given my research questions and goals. The information solicited did not require a respondent to disclose highly personal beliefs or experiences. But, at the same time, the topics did encourage the participants to share their thoughts and opinions about their lives in and out of the classroom. And while the questions were not geared at eliciting private experiences, many women felt comfortable enough in the group to share their ideas.

I created a focus group interview schedule that included some introductory questions about the participants and their general attitudes towards computers and the classes that they took. Most of the questions, however, asked the respondents to discuss their attitudes about the impact of the class on their personal and professional lives. In addition, the participants were asked about how their experiences, and the greater expansion of computers, were changing or modifying their society and culture in general, and the role of women in particular. Their discussions directly addressed my research questions.

Data Collection and Analysis

All interviews and focus groups were tape recorded. This enabled me to transcribe the interviews and analyze both my notes and the actual transcript of the exchange between myself and the respondents. Tape recording was very useful for this project for several reasons. First, because of the number of cases and respondents, it was very useful to organize the data. Second, because this was a comparative study that spanned over a year in the field, some preliminary analysis needed to be reviewed and considered after each additional site and country visits. Finally, the respondents shared very rich data about their experiences and attitudes, most of which would have been difficult to capture in my notes and to then present the translated text in this dissertation.

I opted to hire native speakers to transcribe the text of the interviews and focus groups. This was very useful to determine parts of speech that were more difficult to understand because of regional language differences and / or because of the quality of the recordings themselves. All of the tapes were backed up on the computer as digital sound files and assigned a code number. For the remaining analysis, this code was used to identify the respondent's country and organization. The transcribers were the only additional individuals who had access to the original voice data. They were asked to review and sign a confidentiality agreement protecting the rights of the respondents. Names of the respondents were omitted from the transcribed documents. Only the designated code identified the

interview or focus group. The key is currently stored in a password protected Access database on my computer.

I first hired someone in Nicaragua who transcribed all of the Nicaraguan data. I had a Mexican woman transcribe the Mexican as well as Costa Rican data, since I was unable to find a reliable transcriber in Costa Rica. Once the files were transcribed, I reviewed them for accuracy by listening to the tapes and making corrections, when necessary, to the transcriptions. The files remain in Spanish and only those passages used in this dissertation were translated. All translations are my own and attempt to accurately portray the meaning behind each statement.

As the transcriptions were completed, I loaded the file and my typed notes into NVivo, a qualitative analysis program. Together with my handwritten field notes, I read through the texts and began the analysis. While NVivo is a powerful tool for analyzing qualitative data, I used the most basic functions that allowed me to organize quotes, passages, and exchanges according to theme, or “node” (Richards and Richards, 1994). At any stage, I could run a report in NVivo that would organize these designated blocks of text by theme, providing a very interesting overview of how the respondents from different countries and organizations responded to a particular topic or theme. I was also able to look at the data in a comparative case study analysis by grouping together interviews and focus groups from the same country or same type of organization. This holistic view of the data was very instrumental in working towards an understanding of

how the different cases were unique, while sharing some important commonalities that became the conclusions for the research project (Krueger, 1998).

Limitations

The limitations of this study are based on the methodologies invoked. First, because I pre-selected six organizations from three different countries based on feasibility and volunteer opportunities, it will not be possible to tap into the myriad of organizations within the region. Furthermore, these few organizations cannot hope to capture or reflect the hundreds of such organizations carrying out similar activities in the region. The organizations serve as case studies and a glimpse into some development strategies in Central America and Mexico. Nevertheless, these organizations were selected because they capture several features of ICT training that may be especially important for empowering women, especially the gender initiatives and the unique approaches they integrate into the learning process.

Secondly, because I interviewed program participants in a snowball process, their answers cannot be generalized to the organization, but rather represent the ideas and experiences of a few voices. Concomitantly, the interview process itself may be challenged due to the ethical/political implications of my positionality. Participants may have felt uncomfortable with my status as a white, middle-class foreigner, volunteer, researcher, etc. and it may have ultimately resulted in declined interviews or unreliable data. There are ethical and political

dilemmas of the power inequalities inherent in such work dealing with poor, rural, brown, and underprivileged women in Latin America. I hope that by building individual relationships with the participants at school and in their homes, that I was able to provoke their sincere opinions and experiences. In addition, participant observation bolstered the results I obtain from the interviews. Incorporating focus groups as a method may have reduced the fear of alienation and may have in fact incited solidarity among the participants.

Third, since a good portion of the research was based on information collected from the organization, whether by interviews with directors or by content analysis of materials, I may have never moved beyond the formal stance on issues. I hope by building rapport with stakeholders in the organization, coupled with extensive participant observation, I was able to move past this issue. Furthermore, extensive participant observation within the organizations allowed me to observe, firsthand, the extent to which their formal position played out in every day circumstances.

CHAPTER 4: GENDER AND DEVELOPMENT APPROACH TO EXPANDING COMPUTERS TO WOMEN

One of the driving questions in this study was whether a course that delivers computer training could empower women. The research questions also address in which spheres, public or private, or in which contexts women are empowered. While it is important to address issues of empowerment, such an analysis cannot be complete without looking at ways women are also disempowered. Sources of disempowerment ensue due to firm structural inequalities that prevent them from becoming full and equal actors in society and in their homes.

In 1994, UNICEF stated that access to credit alone does not empower, but rather it is the “context in which credit is delivered [that] is vital to ensuring a women’s control over resources and bargaining power” (1994). Rankin (2001) contended that “credit in itself does not guarantee transformative processes and, on

the contrary, may further entrench subordinating gender ideologies” (32). We are beginning to pave the way of research on the specific impact of ICTs on women in Latin America. I believe that the literature on micro-credit may shed some light on ICTs as a parallel development agenda that assumes that access to computer technology leads to economic, social, and political empowerment for women. Many who fight for the proliferation of computers in developing countries, or work towards expanding access points within them, believe that ICTs will have a positive impact on the lives of individuals, particularly women and other marginalized groups. Expanding computer skills to more people may offer them access to more jobs and opportunities to communicate in new ways. Extending these opportunities to women is, in theory, a way of leveling out the playing field. But in practice, our global labor market is enmeshed with subordinating gender ideologies, thereby preventing women from being equal participants in society. Cultural and social barriers to equality further burden women and relegate them to their homes. In other words, I contend that most obstacles to empowerment are not based in the failure of education-for-development projects, like the Foundation’s course in this study, but rather in the success of the neoliberal agenda.

The case studies that follow include three private organizations that have a strong gender-focus. Unlike the three case studies in the following chapter, these organizations are privately funded and incorporate a focus on women in both the selection of participants and in the program itself. Two out of the three

organizations specifically designed their course for women. The other, the Cisco program, has a gender initiative in which they set standards for improvement of gender equality. The overall success of these programs lies not only in the transference of computer knowledge to the women-participants, but also the ability to create or promote solidarity amongst the women. As the experiences of the women below unfold, the value of their experiences will unfold. You will also see how these women are able to use their classroom experience as a springboard to make improvements in their life, most often beginning with themselves. Each section of the analysis presents the experiences of the participants in a particular course, centered around a theme. The extended quotation in italics seeks to epitomize the argument in that section.

Omar Dengo Foundation: Empowering Women of All Ages through Computers and Education

So here lies the problem. My small business now has the need. I too have the need as a women to pull my family ahead economically. I always had some hope but now I know it is possible. (Olga, married mother of 5)

Part of the initial excitement of partaking in a computer class was the fact that, for most participants, it was the first time they had used a computer. Even

more important to the students was the context of the course and the delivery of information. Some students remarked that computer courses often do not attend to the needs of small businesses, and even less to women. “You like when they focus on participation with women because one knows that men are more advanced, in their businesses, and all.” Many of the participants had a strong sense that this opportunity was unique, particularly because it was offered to women. Guadalupe remarked, “When they say women, and only women, and it is designated for women, one feels a lot of support. And with this privilege to work with women amidst the limitations that we have, we all support each other to push ahead.”

One of the central goals for the Omar Dengo Foundation is to reach a diverse group of women micro-entrepreneurs. Most of the respondents indicated that they felt “special” on some level for being selected, and one respondent, when asked why she decided to participate said, “Maybe because they called me and they gave me, a poor woman, this opportunity.” Others participated because, “those who don’t use technology are being left behind.” Many other women decided to take the course for personal reasons such as the women in this exchange.

1: For me it really was a personal decision [to take the course]...

3: The first reason was to improve myself, that is the most important. I also wanted to be an example for my sons, to do something for me outside of the home, and to leave them alone for a while to fend for themselves, since their father doesn’t live with us anymore...

4: Me too, I like to leave my sons alone for a while so they get a little practice cooking for themselves and being independent....

2: It is very interesting because I want my children to be independent and I don't want them to be hanging on me. I am free and I don't want to feel imprisoned in my own house. I want to do something with my life other than just be their mother and this is one thing I can do...

Although this course focused on transferring technological skills to women, it was structured to address the needs of women running small businesses. This course was specifically designed to “extend their vision and options for action” through the improved management of their businesses with the aid of Microsoft Office skills. Most of the students remarked that it was useful to not only learn Word, but develop a mission statement for their business at the same time.

During my interviews, I was particularly struck by the experience of one woman, María. I first met her at her business, a restaurant nestled in the busy streets of San José, focusing on lunch and catering services. She was a very polished woman, wearing a tailored peach suit with coordinating skirt, silky stockings, and high heels. She had a very short hair cut, kept in high style with product and highlights. She was adorned by a little more than average makeup. I arrived on-time to our first meeting, at the end of the day, as the restaurant was closing. We sat down at one of about a dozen table and chairs towards the front of the restaurant. She quickly brought me over a sandwich and coffee. The staff of

three other women soon left. They were dressed in typical restaurant uniforms that included matching aprons and hats. The staff looked to belong of an obviously different class than María.

We sat and she quickly began to share with me the path that brought her to this point. Having recently divorced her husband, she is now on her own supporting herself and her dreams. She continually remarked how the course changed her outlook and vision of her business. In the following quote, María addresses the significant change in the execution of daily tasks in her business.

My whole business is the computer. I am talking about the fact that now I now send contracts via email. The information that I receive via email is often estimates and I can resend estimates. I do the menu in Word, I do the accounting of the business in Excel. And I do it. My life has changed in such a high percentage because of this new understanding of technology.

María also shared with me that the most important aspect that the course taught her was to value her work. She credits the course for motivating her to make many improvements in her restaurant which have made a positive financial impact on the profits.

This course fulfilled two goals: teaching women how to use a computer, including email and the Internet, and how to improve the productive capacity of their businesses. One respondent said that after years of word-of-mouth contacts, her business as a tailor expanded after she learned about the Internet, “Entering and navigating the Internet has helped me a lot because I now have a lot of

contacts. I have been able to build up my business with these contacts and it has been a success.” In fact, some of the women that I interviewed noted great changes in their businesses in the last year since they participated in the course, especially in organization. “My business is super small,” commented Karla who in the past three years started a clothing import business that she runs out of her home. “And it has helped me so much with receipts, with the sales, clothes, and most things. I am now more organized because I want to improve.”

Perhaps some of the unanticipated benefits stemmed from organizing a group of women to meet together. Many of the women remarked that they felt a great deal of solidarity with the other students. “It was all beautiful. When one learned something that the other one didn’t know, they would help each other and that way we all helped each other a lot.” This was a source of support and friendship. “We were like a reunited family with different businesses but [that were] all valued.” In addition, all students spoke highly of their teachers and identified some common characteristics, such as patience. “The teacher was very special because she had patience. For me personally, because she helped us raise our self-esteem. Because I was afraid to touch a computer. Here I learned, not that I use a computer with ease, but I do know that I won’t hurt or destroy the machine,” said Marisa. It was not just Marisa, but nearly all the women who used a computer for the first time during the course and were initially nervous.

3: I was so nervous the first time I sat down in class because I had never used a computer before...

1: This course isn't for people who feel bad about themselves...

2: You need to have confidence in yourself...

4: You also need to have trust in the instructor..

1: Yeah, he told us that even though some of us are older that we too can learn.

I believe that part of the success of this course was not only the design, but the implementation through highly-trained instructors, not just in the field of computers, but in adult pedagogy. This proved integral to the enthusiasm and information retention of the students and supported healthy self-esteem.

Many of the students were grateful that the course was offered free of charge, since they would not have been able to pay for a commercial or private course. "I have not been able because of my economic situation and the social level that we live, and less because I have four children that study... We give opportunities to them," remarked Gloria. Although they had an opportunity to take this course free of charge, most women are finding it difficult to access computers after the course: the majority of students are not using a computer on a regular or semi-regular basis one year out. The reason for this is the high cost of a computer and, as some indicated, even the high charges for an internet café. Internet cafés charge about US\$1.50 an hour in rural areas, and US\$.75 in urban areas, which

significantly hinders their access to computers for the many respondents in my study who feel that these rates are out of their reach.

Many students suggested that the Foundation should provide continued support, in the form of low-interest loans or a donation. One participant suggested that the Foundation offer open computer hours with an instructor for a few weeks after the end of the course, demonstrating the desire for an extended course and access to a computer. Or one suggestion by a participant was, “I would have liked it if the Foundation helped our micro-enterprises. That they help us and that they connect us with organizations or foundations that can support us economically because one takes this course, but what do I know, and I want a computer and I alone will have to find a way to finance it.” The Foundation, in her view, is not helping her with the resources she needs to become economically self-supporting. With her stand women worldwide who demand the means and resources to be autonomous, who fight for a dignified life for themselves and their children. This can often be achieved in the short term through wage labor, cooperatives, or micro-loans, but it often fails to achieve any great universal improvements. Unless NGOs, local organizations, and governments alike make a shift from short-term solutions, like a computer course with a focus on personal advancements, to long-term structural changes that would provide universal progress, we cannot expect any fundamental change. We can, however, expect change for the participants, and many other positive changes that transcend to their children and spouses.

Although most of the students interviewed are not using computer skills directly, they were individually empowered through the experience. This is noted in the ways women have changed some of their behaviors, actions, and perspectives since the end of the course. For example, one woman noted that before the course, the closest she had ever been to a computer was when she dusted the one in the family room of her house. For the first time, she was now able to use a computer and participate in family conversations that centered on technology. “It is a nice relationship now [with my children] because I can share my lessons with them,” said one of the participants. “I feel really happy, if not proud, because we now speak the same language. I am not lost anymore.” Other women were empowered to expand and express their businesses in ways that they never thought possible, like Marcela who runs her own delivery restaurant and designs her own menus, “I open up Word. I can do it with this or that font. Big, or smaller. I can give it colors, I can put in pictures, and I don’t have to tell you that this inspires you in life.” Other women are content knowing that a computer is not a foreign object to them anymore. “Now it is different. Now I know how to do things and really the personal improvement has been so big because I feel more capable and I feel more fulfilled in my work.” For most women, the course was a success on both personal and professional levels:

As a micro-entrepreneur, logically the micro-enterprise is the face of the business, but you also have your personal life like mother of a family, a friend, niece, aunt, *compañera*, like a colleague. One isn’t only a woman, we also have feelings. I receive beautiful

emails from friends. Such commentary helps you. Of course this is how computers help you personally. But professionally, speaking of clients, we can also communicate over email.

Perhaps one of the reasons this course was so successful from the perspective of women, was that this course benefited participants in both their professional and personal roles.

Omar Dengo Foundation: Barriers to Continuity?

I am still trying to get to a level of the modern times, which is the time of the computer. It is so hard to be able to have a computer in your house. So I know I have some skills, some basic skills, but can't really use them. (Vivian, single mother of 3)

Despite such enthusiasm from the students, there are many critiques one can make of the outcomes in general. For example, most women do not have access to computers after they finish the course, and this can be a source of frustration, particularly for this one member of a cooperative: “Well, ok, the only computer that you will find here is the manager’s. I won’t be able to see one again. It is not for us.” And despite their new knowledge, women continue to confront many barriers leading to disempowerment. Norma was one student who tried to save up money to buy a computer. She realized that she needed additional

financial support and was declined a loan from the local banks: “If you want to grow financially you don’t have support. From the part of the bank, you don’t have support for anything because you are a woman.”

Women face additional barriers to accessing technology because of their gender. Perhaps the fact that more men are Internet users than women is the result of male domination in the field of computer technology. The development agenda on women’s education in the Third World has focused on improving the lives of women through formal and informal education. Kelley and Elliott (1980) urge us to move beyond the ways educating women can improve the national economies and look at the ways education can better the lives of women themselves. One student responded that after she finished the class she had a “very favorable change...Well, in the way that I took note that I could grow, and get out of, lets say, where I was.” Many others responded that their businesses, with the incorporation of modern technologies, were able to help the nation, “I am helping in the transformation of this nation. I am offering my grain of sand to help woman entrepreneurs...I believe that my micro-enterprise is helping the economy of the country.” These perspectives form the crucial backbone to understanding and evaluating the impact of these programs on the lives of individual women.

Part of the goal and rationale of many development organizations is a belief that the commitment to ICT-education will trickle-down from mother to daughter and extend to others in the family. One mother of three teenage girls said,

“Learning computers has helped me with my daughters, to instill the importance of education and show them that women are never too old to do these things,” or as another participant said, “Now I can talk to my family and friends in the same universe. I am finally a part of it, the rest of the world.” The more immediate results will emerge when the students obtain better paying jobs or increase the income they receive from their small businesses. Karla owns and runs a small business of hand-made crafts:

Well I think that this course helped us above all else to value our work, to know that we can and we have rights to charge what we think is fair. Because many times people think hand made items are a pastime and so they don't value the work that one does. It is one of the hardest types of work there is. Doing this many times we are slaves to the work, spending eight or ten hours sitting in a seat working and the people want us to give our items away. And so, well, they [the Foundation] taught us to value what we do.

In this way, these programs anticipate that providing individually-focused training will take on greater importance in the community or national level by influencing behaviors, expectations, and social norms. However, while the Foundation is not challenging the structures, they are better equipping women to work and live within them. While this may fall short of the long-term goal of creating a more equal world, particularly for those who oppose current trends in neoliberal theory, it is, at this time, one way for women to gain skills and keep up with the rapid changes.

Access to employment itself does not change the power structures in the Third World that discriminate against women with little education and low income (Samarasinghe, 1993). And there continues to be great inequality between employer and employee, “Since there is not a lot of work here, the people, the *patrones*, marginalize us as if they wanted us to be their slaves,” said one participant from a rural town. Without specifically aiming at changing the social structures that marginalize women, successful programs believe they can influence the lives of women if they are women-specific, encourage empowerment, and promote social change from within. Further, educational programs, such as the one designed by the Foundation, that look toward formal employment or entrepreneurial home-based informal work may be more successful over general educational courses, but still do not address the inequalities in the labor market.

Norma, a seamstress from a rural town, said in an interview:

I haven't studied administration...I don't know anything, anything. What I am, I have empirically, or I have naturally learned. I didn't have until now, I didn't have, a guide to work or self-development and because of this I wanted to participate. The course was not only about computers, but about the technique, well, of how to improve our businesses and well, because I realized that I could improve my business.

Participants like Norma tried to make positive changes in their business, thereby increasing profit, and in their personal lives, by acknowledging their successes, their strengths, and their vitality through this unique experience.

Omar Dengo Foundation: Home-based Businesses Negotiating the Household

I have now entered the new society. The new stage where everything is based on computers and the internet. My business is now part of it and so am I. Before I was just watching from the outside. Now I too can go to an internet café and use a computer and feel strong in my own home. (Roberta, married mother of three)

Home-based businesses are particularly successful in countries with a flourishing informal market. Women in these countries have the triple roles of reproducer and producer, caring for and maintaining the family and participating in income-generating tasks, and organizer of the community. Home-based businesses are more conducive to allowing women to juggle these opposing roles and realize their rights in society:

We are women who work in the house and we work outside of the house. We don't have a lot of time to dedicate because we dedicate ourselves to our children, our husbands, our homes, but we also think that we have rights. It is our right to come discover new things in class, to touch a computer. It is our right to learn this new technology. Why should I be held back twenty years to use those old typewriters that Christopher Columbus brought?

Two of the women that participated in the focus group created their business as a joint venture with a spouse. Both women remarked that after the course their husband treated them with more respect, but also gave them more responsibility. One woman remarked that, although she was in charge of at least half of the

business, her husband never saw her as an equal. But Rosa said that she was empowered after the computer class: “The woman is in the house. Period. She has a house, she has kids, and she cooks. But thank God, the Foundation gave us the opportunity to feel like useful women.” With her revived self-esteem, Rosa felt more valued in her job and personal relationships.

An analysis of interviews and focus groups has revealed that the respondents’ participation in the computer program has changed the way they value their businesses. The participants realized the important contribution they were making to society in general, and their family in particular. Now, most women felt part of the lives of their children and spouses, able to contribute in conversations and experiences centered on new technology, thus modifying the role of women in the family. In addition, they were inspired to formalize different functions of their businesses to yield more profit and to increase professionalism. In sum, many students viewed the computer classes as a positive experience since it fostered change in their family life and their professional life by reformulating the individual’s perspective of self. In other words, the women experienced an increase in self-esteem brought about by how their new computer skills are valued by society and the women themselves. However, many women continued to feel disempowered with the continued subordination and discrimination they continued to experience.

Cisco: Serving Women in Higher-Education

“I never thought before that I would have the opportunity to study past secondary school. First, my family is poor from a rural village. And second, I am a woman. Most of these opportunities are reserved for men. But here it is different. They actually encourage women from my village to study. It makes me feel really proud.” (Esther, an 18 year old woman from Tlacotalpilco Chilcuahutla, Hidalgo)

I arrived in Hidalgo, greeted by one of the IT Educational Directors. Directly from the bus station he brought me through the streets of Ixmiquilpan. We walked through the daily market where most of the patrons and vendors were women, often dressed in layers of sweaters and prints typical of the highlands. Many of the vendors exchanged conversation in their native tongue of Hñähñu. The Director quickly pointed out the difference between women that are part of this cultural and social minority. Their communities are secluded and only the younger generations speak Spanish, which they learned in primary school. Still to this day, some people do not have access to secondary schools or must travel out of their communities to continue with schooling. For the women that finish school, there are few job opportunities for them and many become young mothers who care for children and other domestic responsibilities. Many others end up leaving their communities in search of opportunity. But, even in the city where women can fill a more egalitarian role in the workplace, there are few options due to high levels of unemployment.

Recently, the director shares, many women have been motivated by the opportunities that an education in computers could provide. The enrollment at UTVM's IT degree is roughly 75% women. The average age for the women is 19 and their attitudes and visions are very youthful. But, at the same time, they are very serious about changing their path and expanding their options. "I decided to enroll here because I wanted a chance at something, something other than what my mother and sisters chose to do. I know have the ability to influence my own life and with this degree in computers I think I will be able to find work and be independent," shared Josefina, a 20 year-old woman.

UTVM's Cisco Certification program is different than the other programs focused on in this comparative case study. First, the program is semi-private since it receives some funding and support from the Cisco corporation. Second, this is the only organization that offers a two-year degree, rather than the certificates offered by many of the other organizations. Lastly, because of the degree requirements, all students have finished their secondary school equivalence, greatly changing the population that has access to this program.

The students' formal secondary education requirements are responsible, in part, for their success in the program. Learning how to use a computer requires literacy and is made easier with experience. While only about half of the students interviewed had used a computer before, many had experience, although limited, in their schools or communities. For the students who were using a computer for

the first time, they experienced many challenges, particularly when trying to keep up with the demands of the courses.

All students enrolled in the IT program follow a two-year course of study that encompasses everything from software, to hardware, and networking. Offering the most advanced and in-depth course of study of the programs in this study, the Cisco certificate, in particular, is very demanding. The Cisco certificate is an internationally recognized title that is well renowned in both the developing and developed worlds. It not only certifies the level of knowledge in a universal method, but it also speaks to the quality of the education. The notoriety attached to the Cisco certificate can be compared to the difference between a brand and a non-branded item. The branded item, like the Cisco certificate, carries with it a certain level of quality and expectations that have been based in direct experiences over time.

These are all important components, but even the Cisco certificate cannot guarantee success. Many students believe that the Cisco certificate opens up more doors for them in the workplace, but is insufficient to assure employment. This private corporation hopes to educate young adults, particularly in underserved areas in the First World and throughout the Third World. By expanding the knowledge base of available workers, they hope to foster a market for their products. Cisco is using this to their benefit by encouraging companies to use their

products and to take advantage of the many new-workers prepared to work directly with these high-end networking products.

Roberta is a nineteen year old woman who comes from the highlands. This is her first year in the UTM/Cisco program and she is finding many challenges. First, is the expense of tuition. Costing about US\$20 a month for course fees and materials, Roberta must work in town to pay for her classes. Second, because her family lives so far, she has rented a shared apartment with other women. She lives there during the week in order to attend classes and study, and then returns home for the weekends. "My weeks and weekends are very different. During the week I am on campus all day long, working on problems or in the computer lab. At night, we often work in groups to try to get ahead. Friday afternoon I return to my community. We don't have computers there. Just a radio connects us to the outside world..." When she returns home, Roberta returns to her domestic responsibilities of taking care of other children, cooking, and doing the laundry by hand. When I ask her whether it is difficult to live between the two worlds she responds, "At first it was so hard to come to the city. I felt like I was turning my back on my family. But now I struggle with returning home. I feel like life could be so much better for them if we weren't poor. I hope to find work and help support them, especially my younger siblings."

Roberta is not the only student that discussed the difficulty of living between two worlds. "My grandmother still doesn't understand what a computer

is,” shared Margarita in a focus group. “I have tried to explain to her but there just aren’t the right words in her language to describe it. She doesn’t speak much Spanish and it is all so foreign to her.” Another challenge for these students is their sex. Most women in more remote or rural villages do not continue past secondary school, and even less choose to break into the male-dominated computer industry.

Cisco: “Always trying to prove yourself”

“I came here for the opportunity. The opportunity to do something that wasn’t expected of me and something that could give me options in life. But the easy part was enrolling since they are happy to welcome you if you want a chance. After is when the challenges come and we are always trying to prove ourselves as able women.” (Patricia, 19 years old)

Many women shared a sentiment similar to Patricia. UTVM, in general, and the Cisco program, in particular, encourage men and women from underserved areas to formally educate themselves. Enrollment is rather fluid and open. Minimal requirements and matriculation fees are sufficient to enroll. This two-year program is fast-paced and very demanding, particularly for those who have never used a computer before or had very limited experience. One of the biggest benefits to the Cisco program is that it has revolutionized the way computers are taught to students in much of the world. In Mexico, the traditional rote learning philosophy

is still used. Many computer classes today continue to focus predominantly on theory, reserving practical work to the end. The Cisco program, while still having sections of theory, focuses almost entirely on practical work. The classrooms all have computers, usually enough for two to a machine. The students can listen to the instructor and carry out the same process or procedure on their machines. Most of the homework is practical applications, so students reserve computer lab time well in advance to assure they have access to a computer.

In addition to the computer courses, all students in the Cisco program take English, the language that dominates the industry. The English courses they take are very utilitarian, having students translate documents from English into Spanish. The focus is not on communication, but rather comprehension. “It is important for us to be able to read documents, instruction manuals, or information about the operating system. Not all of this is available in Spanish. If we want to compete, we must have at least some basic skills,” shared Claudia in a focus group. In fact, the Cisco program is very focused on transferring English as a skill and tool. One of the second-year courses is taught entirely in English. “I am in that class now,” Jessica told me. “I can’t believe they expect us to understand. I guess part of it is trying to match up what we are hearing to what the teacher is doing. I guess they think we will catch on even though we don’t really know English. It makes me feel like we are so behind that we will never be good enough in a real job because there is so much more to learn.”

Many of the projects are assigned for groups. “Us women stick together for the projects. The men end up taking a lot less time to complete their projects but we usually end up doing better. We are persistent and hard workers. We have a lot to prove,” shared Ana Claudia. She comes from the city and is one of eight children, six of whom are boys. Her older sister is married with children. Four of her brothers work in the US as migrants. They spend part of the year in different states working the agricultural fields. In fact, many of the women I interviewed had brothers or fathers in the United States.

1: It changes everything. Everything has changed since my brother left for [the United States].

2: For me too. My whole family has changed. The added income has really helped us and I now have a chance to go to school...

1: If Roberto [her brother] was still here then he would be the one sitting in this classroom, not me...

It became evident rather quickly that these women were studying, in part, because their brothers or fathers were not there. First, when fathers migrate to the US in search of permanent or temporary work, money is sent back to support the family. While it is well known that migrant workers get paid very low wages, often below what would be considered a living wage, many continue to send weekly or monthly batches of money to their families. This added income is often sufficient to push a family out of extreme poverty or provide them with opportunities, such as educational endeavors, that they may not have had access to

if it weren't for the added income. Second, when sons and brothers leave for the United States characteristically they too send portions of their earnings back to their communities and homes. Sons who do not migrate are often responsible at a very young age to partake in agricultural or industrial work within their communities. This recent shift to relying on sons as an income earner for the family has opened up new opportunities for women. And so is the experience for many women in the Cisco program.

María Soledad is an eighteen year-old woman who is in her first year of the Cisco program. I first met her when she quietly approached me and asked me a question about her English homework. We found a place in the corridors to sit and we reviewed her question about verb tense. She had many questions about where I was from. Her father and two brothers had illegally crossed through Texas, she shared with me. They are migrant workers who work different agricultural seasons for nearly eleven months out of the year. They start working in central and northern Mexico and then migrate with the harvest, returning for the entire month of December each year. Her mother relies on the money they send back to her every other Saturday. She does not know how much combined income they have in the States, but the wires arrive with about US\$200 every other week. This money supports her grandmother, younger brother, sister-in-law, and nephew as well. "My mom continues to take care of the house, getting it prepared for when they return home, and also sells in the market from time to time."

María Soledad is not ashamed to share that it wasn't in her family's plan for her to study.

Growing up they had always talked about my brothers becoming professionals, I guess that is what parents always want for their sons. I really never thought much about my future. I mean, I never thought about how it could be different. You see most of my friends are married and have children. Their husbands work and they take care of the household. I thought I would do that too. I do want that some day, to have a family, but I have been given this great opportunity. My dad always wanted someone to turn out to be a professional. Since my brothers are in the US to support my family, I guess I was the next best choice. I wasn't ever really asked. My dad, when here returned last year for Christmas, told me that I could enroll at the university. He told me that it was my obligation to make the family proud. And that's how I got here.

Several other women that I interviewed, or who participated in a focus group, discussed similar stories. This change is responsible, in part, for the high percentage of women in the Cisco program.

One of the greatest obstacles for the women enrolled in the Cisco program is that they feel like they have a lot to prove compared to their male counterparts. "I really think that I am just as smart as the [men] are. It is just that we have so much more to prove, especially with computers." With a tight labor market that already favors men, it is difficult to predict how well the female participants will do after they finish their degrees at UTVM.

Cisco: Mexican Women as Leaders Beyond the Classroom?

“For me it was so difficult I had used a computer a few times in secondary school. But that was it. Even though it is so challenging, this is such a great opportunity for us as students and as women to expand our understanding of computers, networks, and even the world. I just hope we can all make it out there.” (Guillermina, nineteen years old).

Because of the infancy of UTVM, and their partnership with Cisco, it is difficult to assess the long-term benefits obtained with this degree. Many students believe that the computer degree, coupled with the Cisco certificate, will be their entrance ticket to the labor market. Many, like Ana Claudia, fear that in order to find work, they will need to leave the province of Hidalgo in search of more urban and technologically-advanced areas. “In some ways I feel like I am following the path of a proud Mexican woman, taking it upon myself to get an education and then find work. But I also fear that so much will have to change. And so much has changed already. I don’t want to turn my back on my culture or my family, but there are so few options here,” Ana Claudia shared.

Other concerns that women shared in the focus groups, in particular, were centered around inequalities in the workplace. In the following exchange between several women, they discuss the ways these inequalities play out in their daily lives:

1: Well, I get very emotional when I hear that someone wants to study computers and I know that they are going to face so many obstacles, like that women get paid much worse than men. This is something that we have been fighting against for a long time. You know women have the same abilities as men but our work is not valued as much. Maybe we can work towards changing this industry so it is more accepting of women and not the machista attitude.

2: But in other areas that are not as machista, women do get ahead in life because we are brilliant and even more capable than men...

3: I know it won't be easy out there. Our work is valued here, I think just as much as the male students. But we need to take advantage of the opportunities out there and prove that we are capable...

2: As women, we have the mentality that we aren't as good, or won't be as good at work. It is really interesting to work with men installing a network because others around you are so used to asking men for help since they have the answers. They think of the woman as only an assistant. I want to demonstrate that I too can set up a network and can have a man as my assistant.

These women have realistic concerns about how the growing and changing labor market will accept them. It is yet to be seen, in the world of computers in Mexico, how integrated women will become.

Other concerns voiced by the women were centered around pay, since it is well known that in Mexico, and around the world, women do not earn as much as their male counterparts. Not a single participant in the focus groups or interviews thought that she would earn as much as a man in the same position. Some of the women were willing to look past this inequity. Others, like Rosalina and Sandra, were adamant that they would not accept this form of inequality. Rosalina is

studying computers because she believes that it will provide her with the most opportunities. She first started studying to be a primary school teacher. She read in a newspaper the opportunities that were being brought to Mexico because of computers, so she decided to switch tracks. Rosalina is now in her first year studying computers and her experiences here were some of her first interactions with computers. “I believe that we are a little marginalized in that area,” Rosalina voiced about the pay inequity. “We need to stand firm as women and not accept this type of behavior. I read somewhere that some jobs don’t even pay women half as much as men. We are capable women and deserve to be respected.” In the same focus group Sandra commented, “Many jobs say that you get paid according to your skill level. But what happens in reality is that men get paid more and their salary continues to rise as ours as women stay low. We have been given an opportunity here at the university as equals and we can’t let that go even when we find jobs.”

Even as these women will face obstacles in the workplace, they are serving as role models to other women in their communities. Many women are content with knowing that they are contributing their efforts to expanding the visibility of Mexican women in technological fields. While the long-term goal of achieving equality in the workplace is far off, the UTVM students are making their marks in their communities. “I know that I am only one person here and can only change so much. But I have already demonstrated to my family that I am capable. All my

brothers are working in agriculture and I am going to be the professional one day. I have shown that people, especially women, from our poor community can get ahead,” Diana shared in a personal interview.

The overall success of integrating high numbers of Mexican women in formal computer training is yet to be fully seen. It is the goal of the Cisco Learning Initiative to assimilate women to computers on a global scale. The insight that I gained from the women at UTVM demonstrates that they have clear goals related to how they are situated in society vis-à-vis their culture or gender.

SFA: An education for those without

“When I was given the scholarship to study computers, well I didn’t even know what computers were because us poor people sometimes we don’t even have the academic level to even know what we need to get ahead in life” (Helen).

The social problems run deep in the community of Nueva Vida. Formed after Hurricane Mitch as a resettlement community, the area offers few options of work or education for its inhabitants. The situation is even worse because most of the people who came were already very poor and the conditions present were not conducive to creating a means to access work or services. Over ten thousand people live in this community, mostly single mothers without an education. If you

aren't employed by the Zona Franca, or one of the free-trade zone factories, you are part of the informal market. Jobs in this area range from selling water at stop lights to selling your body at stop lights.

I found complex social and economic problems when I began working in the community in 2000. At that time, I focused my fieldwork on the lives of thirteen sex workers. They had few options, and even less since none of them had enough formal education to apply for a real job. Resorting to sex work was their only means for survival. But this could change, we thought, if they had the requisites to enter into the formal labor market. "I want to have decent work, one wants to be, I don't know a receptionist, making calls and all. I am still young, I'm only 28 and I have great dreams to change," said Georgina. If they had marketable skills, even rudimentary computer skills, we hoped they would find work. But none of the original thirteen women had ever touched a computer, only one ever having used a typewriter.

This changed in mid-August of 2000 when thirteen women sat down at a computer for the first time. Jazmina's eyes filled the first time she typed her name and saw it on the old black and white computer screen. Packed in a small classroom, two to a computer, they worked very hard towards a degree in "microcomputers", the equivalent of a Windows class.

The women were given full scholarships to attend the computer school. "First, I took advantage of this opportunity because I was motivated to study and

second, because I had to give it my all since they were giving me this scholarship I had to put more effort in to give it my all, my effort to get good grades and be a good student...I may not have finished secondary school, but with the little I learned in primary school, I put in my all, all my effort to improve my life..." said Guadalupe). There were some women for whom a computer education was a dream. "It is true," said Victoria, "I have always wanted to use a computer and to have that knowledge that is so important for now and the future." For others, the focus was on taking advantage of an opportunity, regardless of what it entailed. "When the group leader told us that there was an opportunity to learn computers, I too wanted to be involved. [The group leader] showed us all that there was to take advantage of," shared Eugenia.

Many of these mothers found it very challenging to balance their household responsibilities while studying. "Its true that we, Nicarguan women, have a lot of work in the home and with our children. But for us it is paramount that we want, that we have to want it enough for our children's future, to be someone in life, at least so our children are proud of us," remarked Araceli. Other mothers commented how their children needed role models so they would stay in school. They also needed the income from more stable work in order to be able to keep their children in school. "We have to learn if we want to work. The little we have fought to have is for our children and if we have this dream, or this illusion that we can have it, we can get out of where we are," remarked Teresa."

Most difficult for these women was to be in class, since for many of them it had been over a decade since they were in school. They were also learning about so many new things that also necessitated new skills. “Well, typing was very difficult for me,” said Angela, “it was hard for me to put my fingers on the keys and move them. But after a while I got used to it and I saw how nice, how nice it was to type, write cards, and learn how to make birthday or Christmas cards.” Some women also complained of headaches from concentrating and staring at a computer screen. “I would return from class and have a headache, my hands would hurt too. My mind was also tired from soaking up all the information,” said Karla.

Within the past four years, the students of School For All have changed computer schools. At their most recent school, SYDICOM, they often complained about teachers who were not understanding or considerate of their needs. “I would ask the teacher for help. Sometime he wouldn’t even let me ask for help. He would make me stay there until I got it right. He would yell saying, ‘you have to learn, you have to learn.’ But he cared, he really wanted us to understand, even if others thought we could not,” Reginia said in a somber voice. While there were many hurdles for the women to overcome in the classroom, they continued to feel a lot of support from other women. “I quickly learned that all of us women come from the same place and suffer from the same things. It is best if we stick together and work through our problems. And working towards our degree is a great place to start,” María shared.

The women would meet regularly in the community. While it started off as a necessity, to plan for events or get an orientation for school, it quickly shifted to working on home work together and relying on others for support. Carolina said, “You know I don’t have a husband. I often feel alone. Now I have all these sisters around that know what I am going through and help me through things. I can also help them.”

SFA: When training is still is not enough

“About school, well I am very thankful because I never thought I would ever touch a computer... but now I know how to turn one on. The only thing we don’t have is work, even though I need to work” (Lilian).

The women participants in the School For All program, while motivated, have encountered many obstacles that have prevented them from utilizing their computer skills in the formal market. While they desire and dream of formal work, very few would probably be appropriately qualified for such a position. Most of the women still lack professional development and therefore present additional problems for potential employers. These women from Nueva Vida are unaccustomed to holding down a job for an extended period of time, and so they do not fully grasp the ramifications of holding down a job. There is a lack of

discipline on their part, not innately, but because of their history and current learned behavioral patterns. Part of this stems from their background as poor women, relying on themselves to make some money on the streets. The other part is based on the fact that they earned their money on the streets, not in the usual trade and barter, but by selling sex. While the women are sweet, caring individuals on the inside, the streets have toughened them up, often making them hostile towards men. This complicates their relationships with men in the workplace.

Beyond the workplace, many of these women have complicated personal relationships with men. “Not only has my life been sad, but for most of us women who don’t have men who support them right. Many women have men who leave them, abandon their children, and for most of us this has happened,” said Carolina, a single mother of three. While almost all the women claim that they are single mothers, the reality in Nicaragua is that men and women form informal relationships where most men have several women partners with whom he fathers children. While most of the women are supported financially by these men, in Nueva Vida it appears that the financial support is minimal, just giving them enough to want the money and rely on the man. The men return to their home for a few nights a week. Most men have relations with women from different communities. However, Julia’s ‘partner’ would stay with her for a few days and then live with her neighbor two doors down.

When I was taking the course, my husband got really depressed and he left to live with a neighbor. I really suffered because of that. I

even had to take my children to a psychologist. He has been back with me for a month now, but it is not the same. The whole experience just make me crazy. It is one thing to be off with someone far, but with a neighbor! How can I trust a man who did it with the neighbor? It has been four months since we are back together, but I am going to continue studying, yes I will always continue to study. I want to do more for myself and for my children (Julia, mother of 2).

The impact this has on the interactions between men and women is astounding. Women are left to fend for themselves and their children until the man returns and regains control of the household. “The only problem I ever had with my classes was with the father of my son. He didn’t like that I was studying. He threatened that he would leave. I told him, ‘because of this you are going to get mad? So why don’t you leave because you are always going to want to see me below you,’” shared Angela. While Angela is vocal towards her partner, many women suffer in silence.

Almost all the women in Nueva Vida experienced some backlash from their male partners. Part of this was rooted in jealousy, but, at the same time, this behavior is characteristic of a paternalistic male role in a machista society. In a machista society, the man feels threatened if the woman is studying, or leaving the community, or may eventually have a job where she can support herself. In many ways, taking computer classes revealed a lot of dissent from the part of the men and, because of the solidarity created by the women, they were often able to respond in ways that they had never before. “There were times when we would get home at five. There were times that we would return at six and he would be all

mad and say, 'You didn't study when you were young, now you're too old.' So I would say, 'Why do you care? I want to get ahead . I am me. You are you.' 'You, because you are old, who is going to give you work.' So there, he would get so mad at me when I would get home late, sometimes not until six thirty. He still gets mad, but I always respond the same, 'I am going to make something of myself, I am going to continue studying, whether you like it or not.' I think he is starting to understand," (Claudia). Being able to voice these strong personal experiences to their peers has better equipped them to deal with these situations. Many of the women have relied on the close relationships they now have with other women for support.

Beyond improved relationships with women in the classes, many women also feel increased confidence with their peers.

6: At the beginning I felt really bad because I didn't trust the other students that much. Since we didn't know each other very well, we didn't have a friendship. The other students looked down at us. Others didn't, but I still felt really bad. Not anymore, now I feel more trust with their friendship. My life has changed from what I was doing before.

2: Yes, because now we encounter people that are amazed that we are studying.

6: Sometimes they ask us, 'where do you study?' And sometimes you find someone who maybe is working and maybe just finished a class in accounting. Before, I would feel bad about myself, having stayed forever in primary school and never anything more. Now we also have the ability to do things, and my self-esteem has only improved.

4: There was a time when my self-esteem was really low because when I was selling in the streets. Who are you anyways if you are just selling in the streets? Now that I have skills, at least computer skills, now I feel better about myself and have increased my self-esteem. At least now when I meet people I can tell them I am worth something.

As this exchange between three women demonstrates, they feel better about themselves when they are among their peers. These women are accustomed to working on the streets, experiencing all the degrading feelings of being a sex worker. For the first time, they have learned to value their skills and know that they have an ability to make choices. What I encountered back in 2000 during my Master's fieldwork was no longer true. These women were not forced to resort to sex work. Even though they still could not find formal work to their liking, because of the lack of a high school degree and the saturated labor market, they still have found alternatives. While many of these alternatives, such as selling food on street corners, are not as dignified as office work, they have at least begun to understand that they do have choices.

The experiences that women had in computer classes have been a catalyst for changes at home. Whereas before women felt very marginalized, they now feel empowered.

2: Well, I think that it is most important that this course was offered to women, because us women suffer the most because men leave us with the children and they think it is okay. For us who walk a different beat [*sex workers*] we suffer a lot...

4: Well, for me it has been so special that this has been offered to women...

1: Well, for me too it is important first to help women, right, because women suffer the most. We have more problems...

Empowerment is exemplified in this exchange by the way that women value access. Opening up the doors to marginalized women, in this case, has served as the impetus for change. This opportunity has served as a catalyst for them to focus on other aspects of their lives that need change or improvement, as is the case with Daniela who shared, "Never before did I think of myself as a capable person, or a capable woman. Now that others have shown me that I am able I too now feel that I am capable. I am not just capable of learning how to use a computer or do other things that I have never done before, but I am also capable of being a strong woman." Daniela's experience demonstrates the role that empowerment, even at the most basic level, can change the way that programs impact the recipients. The greatest success of School For All was that its focus was not on computers but on women as individuals and as a community.

SFA: Only computer skills– Can it make a difference?

I am not sure if I will find work since they don't only require computer skills but also a high-school degree. But this organization has shown me that I can still make something of myself, despite all the obstacles. It isn't going to be easy, but it never is here in Nicaragua. I now have enough confidence to get ahead in life. (Candidad Rosa)

Unfortunately these women have experienced a lot of obstacles when attempting to find formal work. In Nicaragua, it is estimated that over 50% of the population is unemployed with another 20% being underemployed. There is also a very defined separation between the classes, such that people from the lower-income group are relegated to the lowest levels of jobs, almost exclusively the service industry. Obtaining a job as a secretary, for example, necessitates a lot of connections. Once one finds a job, the turn-over is very high since employers have so many applicants for any given job. It is not uncommon for people to have a job for two weeks and then be fired. Beyond that, there is no job security, so people are often fired on a whim. Even in the Free Trade Zone, where women slave in the manufacturing plants, women are fired every day if they don't meet their quota or miss a day of work because they or their children are sick.

1: I have always wanted to work as a secretary, to be in an office, there using computers. But now it is very difficult. You need connections to find a job...

5: Yes connections that are made by someone higher up that can make a connection for us. But for us to go leave papers, well lets just say the papers stay there and they never call us. And even

more we had to go to the police for official copies of our certificates and photos...

1: They ask for everything now, even health certificates...

5: Police record, photograph, and they just stay there. Even if we go and leave papers here and there, well it ends up just costing us more money in the end. I just want to have a decent job, is a job as a receptionist making phone calls asking for too much? I am still young, I am 28 years old and I have great dreams in life to get ahead.

Something interesting happens when you take a group of women and have them work towards goals together. They begin to take notice that they too have abilities. Their self-esteem increases and they are empowered to make positive changes in their lives. For the women of Nueva Vida, computer classes have been the conduit for this change. In this case study, perhaps more than any other, we see that it is not the computer class, per se, that impacts so many parts of the women's lives. But rather, it is the process by which these women have come together and drafted goals for the group and for themselves. They thought about what they want for their future, and saw this course as an opportunity to make a step in that direction. They have learned to communicate with other women about issues that before were not shared, particularly issues of domestic violence. And most of all, they have learned to believe in themselves and their abilities. For all these reasons, this computer-based development program has been a success. Perhaps the results are not as encouraging as we would like to see, since the fact is that few have found work at the types of jobs we had thought possible. But the women value their

experiences and it has been used as a stepping stone towards greater empowerment.

4: Well, I feel empowered...

5: I have changed and I feel like I have changed. I don't feel the same anymore. I now feel stronger and with more value in life.

3: I have changed so much because now I feel trained enough to talk to other people that are educated. They ask what I have studied and I proudly tell them what I now know. I feel empowered, empowered to get ahead in life.

1: My self-esteem has improved a lot too. I now feel capable to confront a person that knows more or less. I now feel able to talk to this person and demonstrate that I am capable. And I feel that my self-esteem has improved because I have learned so much about computers and myself.

But while these women are noting a great change, particularly in their self-esteem, they are also disempowered, for many of the same reasons as the Costa Rican case earlier in this chapter. While these women begin to value themselves as people, as women, and as workers, they enter the labor market with a new sense of self-worth. However, because of soaring rates of unemployment, coupled with their insufficient skill sets, they are all too often turned away by a prospective employer immediately. "I really want to go out and look for work," shares Alejandra, "But there are the requirements that they ask of you and I can't fill all those. They ask for your high school degree and experience of more than five years. But we feel prepared and capable that we can, I say that they should give us a chance to at least show them..." All too often women like Alejandra continue to be relegated to

informal work, or work in a sweatshop, where the work environment inhibits their feeling of self-worth. “I work in the Zona [Free Trade Zone,” says Johana, “All I do is cut off the small pieces of thread left over and my salary is only 900 a month [equivalent to US\$58/month]. If that isn’t bad enough, they also treat you like you are a child, or even worse, like an animal.”

For these women to have a chance at formal work beyond the Free Trade Zone, they will need to pass their high school equivalency, a process of over two years. In addition, they will need some additional life-skills and professional development courses. And while dreams of formal dignified work may be in the distant future, they continue to make small, but important changes in their daily life that are so important for these young single-mothers who have so little.

Gender-Focused NGO’s: Paving the Way of Change for Women

The three previous organizations were selected because they demonstrated an interest in gender and/or women’s issues. The significance of this was exemplified by the way women responded to questions about their experiences, in and out, of the classroom. The overwhelming response from these participants was that the classes were successful in transferring skills. While the skill sets ranged from basic computer literacy, as in the case of School for All, to formalized

computer network education, as is the Cisco program, the participants valued their education.

Even more important than the transfer of computer skills, was perhaps the way in which the participants, as individuals and as women, were valued. Many respondents indicated that they felt personal and professional accomplishment. Abril is a twenty-one year old with two siblings. Both of her parents have passed away, leaving extended family to care for the children. “I don’t feel like just another student here. I believe that the teachers really care about me, my personal and educational development. Of course they want me to leave here and find work. But more important, I think they want me to be a strong woman in the workplace, to prove that I can do it to myself and others.” Abril hopes to finish the Cisco program and find work within the province to enable her to stay close to her siblings and help support and raise them.

In addition to being a valued participant, women also felt empowered to stand up for themselves like never before. Soledad is a married mother of two and decided to participate in the Omar Dengo Foundation computer class to help gain skills for her small clothing store. “I know I am in charge of my business, and I make decisions every day. But I learned that I also could take charge of my personal life, you know with my husband and family. I left the class with a new perspective of myself and how I serve my family and my interests as well,” she shared in a focus group. Soledad, and others, finished the class with a new

perspective of their role as women in the family. These women are strong individuals by nature, having started and maintained their own small businesses. However, many lack the same strength and control in their personal lives. While these courses did not focus on women's rights, the sexual division of labor, or spousal roles within the family, many women finished the class with a new-found appreciation for their rights within their communities and their homes.

Finally, the educational component of learning how to use a computer was transferred to others in the family and/or community. While computers alone cannot change the way a society values education, these computer classes have proven to impact the way some communities approach education. Ana Laura lives in Nueva Vida with her three children. When I first met her in 2000 her three elementary-school aged children would attend the local primary school for three hours daily. Ana Laura viewed primary school as a daycare and did not discuss the schooling with her children. She never reviewed homework or class projects or took an interest in any other aspect of their education. "That all changed," she shared in a focus group, "I never cared about my children's education because I never knew how it could impact you. But I see that for myself, this short class has changed the way I value education. It can make a difference, open up doors, and allow you to dream of things that you never thought possible. They see me studying and I can now be their role model." On one of my last days in the field, I passed by Ana Laura's one-room cement block house. The doors and windows

were open. She was sitting with her eldest son reviewing a class project and passing down the value of education.

In this chapter, I have analyzed three case studies of organizations that focused on computer training with a gender-focus. In general, this analysis highlights the ways that these courses have been successful at impacting the participants by teaching them self-esteem, empowerment, and the value of education. These organizations were able to accomplish these things, in addition to just transferring computer skills to the participants, in part because the organizations sought to address issues beyond skill training. By having a gender focus, these organizations in particular were able to understand gender dynamics as they play out in the classroom, the home, and the community. While none of the organizations fully addressed the complex relationships between men and women that exist in these patriarchal societies, they acknowledge the divergent experiences between men and women and attempt to address some aspects in society. The following chapter analyzes non-gender-focused organizations and how they addressed women from a development perspective.

CHAPTER 5: WOMEN AND DEVELOPMENT APPROACH TO EXPANDING COMPUTERS TO WOMEN

Three organizations comprise the non-gender focused organizations for this study. In the previous chapter, I laid out the benefits of integrating, even at the most basic level, gender issues into the curriculum, such as the case of the Omar Dengo Foundation. Another organization, School For All, while not specifically focusing the course content on women's issues, took initiatives to incorporate the needs of women into the program. Yet another organization, namely Cisco's gender initiative, assured that a certain percentage of students and instructors were women. While these organizations offer a diverse set of techniques for addressing women's issues, the overall success was comparable. The women felt empowered in the courses, and although continued to face obstacles because of their gender or class in their homes and communities, they left with some additional tools to deal with the issues. These tools did not just impact their human capital, as with their

new computer skills, but also some inter and intra-personal skills and self-esteem that carried over to changes in their lives outside of the classroom.

What follows in this chapter is a closer look into how the participants in the non-gender focused organizations fared. Two of these organizations, INA in Costa Rica and INATEC in Nicaragua, are governmental entities that provide vocational training to their citizens at hundreds of locations within their countries. Neither organization has an explicit goal to incorporate women into non-traditional fields of study, such as computers. The curriculum is strictly focused on computers and does not include any additional focus on women's issues as they relate to computer-use or job attainment. The Mexican case selected, the telecenter in Tlyacapan, is unique in the sense that it attempts to address the needs of its rural population, but fails to address women's needs as well.

These organizations are providing a great service to these marginalized populations. For most of the participants, the computer course offered by one of these organizations provided them with the first opportunity to use a computer. Many students acquired necessary skills that in the future will at least open up doors in certain labor-market sectors. For other participants, the computer course served as an outlet for them, giving them a glance into the world around them and introducing them to ideas and ways of life very foreign to them.

INA: Expanding Computer Access in Marginalized Urban Areas

The labor market is changing here in Costa Rica. No longer are they going to need a hundred workers. Now with computers there is increased employment for now. But those who don't know how to use a computer, like those of us that don't have money and aren't in San José will be left out of the progress. That is what INA is trying to bring to us – a chance to be part of the progress. (Carolina)

Of the three countries selected for this study, Costa Rica is on the path for the most universal access to technology. Because of the small size of the country, and the highly centralized urban area around San José where the majority of the population resides, computer access has been expanding rapidly. While many of the institutions and organizations backing this process are internationally based non-profits, one national organization has been spearheading the Costa Rican efforts. The Instituto Nacional de Aprendizaje, or National Institute of Learning (INA), has been providing training opportunities to Costa Ricans for decades. More recently, there has been a significant shift from the vocational focus of INA – providing manual skill training – to that of computers. While INA continues to offer courses and certifications in bicycle repair, plumbing, and horticulture, to name a few, much of the funding and focus of INA has shifted to computers and other technological applications.

INA has a presence in all of the provinces, with large centers in the urban areas and satellite locations in more rural or remote regions. The largest

competitors of INA are the private computer institutions where, “you buy your degree,” as many students remarked.

1: The difference between INA and the private institutions is the cost. In fact, I believe the quality of education is superior here...

2: People go to the private classes because they have the financial means, and some think that the more you pay the better it is.

3: Why should we go pay high rates for computer classes at private institutions when we probably won't fit in anyway. You need a lot of money to afford the private schools.

By comparison, the enrollment fees for INA are quite accessible at around US\$25 per course versus the hundreds of dollars people spend at the private courses.

In San José, the Paseo Colón center caters to students gaining skills for their first jobs, or professionals returning for necessary training to bolster their skill sets. This center boasts professionalism, requiring student identifications for access, computer labs with recent technology, and an overall modern look and feel. The satellite locations where I focused my work, on the other hand, are resource-poor by comparison.

The six-classroom INA building in Alejuelita relies on a single computer lab with old computers and dot-matrix printers for their classes. About twenty-students per class share the dozen computers in the classroom. Over seventy-five percent of the students who were enrolled at the time of my study were women ranging in age from eighteen to forty. All of my respondents indicated that they were taking the course because of dramatic shifts in labor market requirements. “It

is that in today's society you cannot find a job without a title, a computer title. Without experience you cannot find a good job, but without a title you cannot find a job at all. Today it is so necessary and so many of us, whole generations that did not grow up with computers are just trying to catch up," shared Adriana, a 36 year old mother of two children. Adriana was working as a secretary for a small organization. She was recently fired from the job she held for over four years because she lacked the required computer skills. At first she tried to find work elsewhere, citing her secretarial degree she earned in 1986 and her experience with typing and proof reading documents. When several months passed without a single job offer, Adriana enrolled in the INA computer course. "I know that things will now be different now that I have computer skills. I can tell my employer that, 'yes, I know how to type in Word, enter numbers in Excel, and print documents.' I now have a chance at finding a job."

In addition to Alejuelita, I conducted interviews with students at the Turrialba location, some of whom were just starting their first course and others finishing. This location, like Alejuelita, is found in the more marginalized sections of greater San José. The resources available here are not as advanced as those found in Paseo Colón. While this center offers a monthly course in basic computers, most of the students here take classes in the workshops. This center is well known for their courses in basic automotive repair, bicycle repair, and

carpentry. Like the Alejuelita location, most of the students enrolled in computer classes are women.

1: I don't know why all my peers are women here...

2: I guess by now most of the men know what they are going to do in life, or have a job...

3: I think it is because most of the boys already know how to use a computer. I mean not that they are smarter than us, but you know computers and technology come easier for them...

4: But also don't forget that most of the boys that we went to high school with are not in jobs using computers. They are now working in manual jobs, some even taking classes here to get their title in plumbing or something. I think us women have higher aspirations sometimes. We don't just want to settle for being mothers that stay at home. We want more for ourselves and computers are one way that we may have this chance...

This exchange exemplifies some of the feminist views held by respondents. Unlike participants in other organizations where many of the women held feminist views of women's role in society, however, I found that the least number of women at INA agreed with this last respondent. Most of the students were enrolled in the course because it was a work requirement or that they lacked vision of what they wanted to do and thought that taking a computer course would be of interest.

Marielena enrolled in the class because she wanted to be able to help her children. She is a mother of four children ranging from five to fifteen years of age. Marielena takes this course very seriously. She arrived early with a briefcase in hand, dressed appropriately for any office-job in a suit and skirt combination. She sat at her desk awaiting the teacher, reviewing the material from the previous class.

Even though I am a mother, and probably old enough to be the mother of most of the students in this class, I don't think you are ever too old to learn. I was motivated because of all the discussion in the newspapers about how important computer skills are for today's workers. You know it is now almost a universal requirement. Even though I am a housewife and I don't work outside of the home, I thought that this course was important so I could get in touch with what is new and maybe help someone, maybe even my children. Even the one at six years old is learning computers and English, it is now a requirement. I don't want to be left out of all of these changes.

Marielena, unlike most of the other students, is not taking the course out of a work requirement for herself. However, she is aware of the swift societal changes brought about because of the expansion of computers. She hopes that if she understands computers, she too will be part of the "modern society."

The majority of students indicated that the main factor driving their decision to enroll in computer classes was the work requirement. The secondary motivation was for personal advancement. Gloria openly shared to the group, "I am here because of work and for personal achievement. I think that work comes first, but behind that is the sense that I want to improve my life and have a hand personally in my economic situation." Shortly after, Lette shared, "we have an obligation to our country to improve and help out in the jobs that we can. INA is offering us this opportunity to study and we must take advantage of it."

For the working class of Costa Rica, these students may be the first family members to use a computer. Many students commented that their families were proud that they were enrolled in computer classes. Many of the married

participants commented that their husbands were supportive, although somewhat skeptical of the benefits a computer class could bring to the women. The woman who experienced the most backlash was from her seventy-three year-old mother-in-law. “She has the mentality like many of the older generations that women’s place is only in the home. I told her that this is one way that I can feel good about myself. I think so many other women don’t take these courses because they have people in their lives that tell them not to. INA should reach out to these women to really make a difference,” Diana poignantly shared with the group.

Many other women in the focus groups identified ways that INA could help them as women. “First, some of us are breadwinners for our family. But that does not change the other roles we have as mothers and wives. Our society needs to acknowledge all the roles that women have in our country,” said Natalia. Several others students offered ideas of how INA could reach out to the needs of women. Eugenia recently gave birth to her first child, within months of finishing her high-school degree. “I wish INA or some other organization told us that women had choices, like to take these computer classes. I ended up pregnant and left work thinking that that was the only option for me. My friend told me about the course and so I am here, but if I had known about these opportunities I may be in a different personal situation now.”

In addition to promoting more options to women, others thought INA could also help them better prepare for work after the course as well as juggle the many

roles women have in society. “What they need to do is focus a little on how we can use these computer skills. I don’t mean how we can use them on a computer, but actually how we can manage to find a job, or begin to work out of the home because of our husbands or children,” remarked Anita. While INA does not go beyond computer skill training and fails to address some of their additional concerns, the woman participants are very lucky to have been accepted into the program. Many people, men and women, wait several months to enroll in such a course.

INA: An Opportunity for a Select Few

I waited months to enroll in this course. Finally my name was chosen. I didn’t think twice about registering because I didn’t want this opportunity to pass me by. (Juanita, 24 years old)

INA’s infamous reputation is somewhat jaded by the limited access there is to the computer courses. While the number of computer classes slated for each location continues to rise, limited funding, instructors, and infrastructure reduces the number of students each center is able to serve. At Alejuelita, for example, nearly one-hundred names were on the wait list, each person hoping for their opportunity to enroll when new classes commence every few months. Smaller, localized centers, like Alejuelita, cater to more marginalized sectors of the

population by offering courses at a lower cost than the large urban centers. But, the notoriety attached to the large urban centers, such as Paseo Colón, make them particularly popular with young professionals. Upon my few visits to this center, I witnessed lines of people waiting to register for the wait list.

Jessica recalls the first time that computer classes were offered at the Alejuelita location. The community had been told for months that the computer courses would be initiating during the summer rainy season. When the courses finally opened for registration, Jessica shares, “The line went around the block three times. At four in the morning the night before I got in line and was more than a half a block away. We are all motivated to learn, the men and women of our community. We need to for work and for personal satisfaction.”

More access to these courses is needed, especially in the non-urban centers, because of the limited means of the population it serves. “I had been waiting for over three months before they called me. I was beginning to give up, you know, and start to think of other options. But my options are limited since I cannot afford a private class. Now with computer skills being such an important requirement for any job, I wonder how people without skills will find work,” shared Lupe in a personal interview. Working previously in a small stationary store as a clerk, Lupe quit her job in order to take the course. “I was not able to work and study at the same time because these classes are held during the day and that was when I was scheduled to work. I hope that when I finish next month I will be able to find a

better job that utilizes my new skills.” I met up with Lupe before I left Costa Rica and she did in fact find a better paying job. She was able to market her skills at the small store with her new computer skills and find work at a larger chain that relied on cash registers. Even though the INA computer training did not specifically train her for that type of work, employers believe that people with basic computer skills have the ability to apply those tools to other applications, such as using a cash register. They also require computer skills for many types of jobs, even if the employee will not be using a computer. Basic computer skills continue to be used as a way to weed out ‘weaker’ applicants from more promising potential employees.

Because of the new work requirements many people feel a large obstacle now exists that prevents them from finding work. During this transition phase, women, in particular, are finding it very challenging to find a job without computer skills. With limited access to low-cost courses, like INA, many women feel that they are being left out of the progress.

INA: Being Left out of the Progress

In some ways I think that I have been left out. You know I am a little older now, 36 years old to be exact. I never had computer training in school. And now since the labor market has suddenly shifted, others like me are being left out. That is why I am here, to make up for what I was not given and what I do not have. (Ana Celcilia, married mother of three)

The Costa Rican labor market differs from both Nicaragua and Mexico in that it offers more diverse opportunities. With this, however, comes increased polarization between the educated and non-educated sectors of the population. This is clearly noted in both Nicaragua and Mexico where there are masses of uneducated people compared with a smaller elite group of educated professionals. In Costa Rica, however, there have been long-standing efforts to expand education to even the most remote areas, making it the most highly educated society of the three countries. With the expansion of computers in the last decade, Costa Rica, as a nation, is moving closer to being able to compete with other more industrialized countries. What still lacks, however, are generations of people left out of this progress, mostly because of their age, as most citizens older than twenty-five or thirty do not have computer skills, or because of their social class. Social class plays a roll here because even the public education system continues to favor the wealthier, urban regions. INA is stepping in now to provide for the vast majority of the population that have been left out of the progress.

During one of my early morning focus groups, three women identified themselves as recent high-school graduates. None of them had found a job yet, and decided to enroll in computer classes.

1: You can say that we were taught how to use a computer. But that doesn't mean we actually do...

2: See we had computer classes but they consisted of theory only. That isn't a bad way to learn some things, like history or chemistry, but with a computer you really need to learn by doing and practicing...

3: Theory isn't enough to find you a job, what you need is experience. The education system is good here in Costa Rica, but they still don't understand that we are not all being given the same chance. There are schools that have computer labs, filled with computers and teachers that know how to use them. But some of us, we get left out because of where we live and we need to make up for it later.

Since many of the public school are incapable of teaching computer classes, many recent graduates find themselves on the wait list for one of the INA classes. The advancement of these three students, for example, was dependent upon being selected off of the wait list after several months.

The students that participated in the focus group were asked questions about how their gender affected their likelihood of finding employment after the course. While many voiced that they thought they had as good a chance as their male counterparts of finding work, most indicated that they would most likely earn less money and stay in an entry-level position for longer. Some women indicated that they thought they would have an easier time at finding a job, such as

Alejandra who felt that women are more respected as employees. “It is not that we don’t all have the same abilities, I just think that women earn the respect of the employers. Sure, most of the bosses are males and I think they relate well to having women work below them. But I think that as employees, for the types of jobs we will be looking for, that we have a better chance than the men,” she commented during a focus group. This belief about the employability of women versus men also came up in a different focus group.

1: I think I will find work before some of these boys in our class. As women we are more responsible, mature, and are harder workers.

2: And the bosses know that. Many of the jobs in the newspaper specifically ask for women employees...

3: But don’t you think that the problem is that all those jobs you are talking about don’t pay well. They are entry-level and the better jobs that pay more are the ones that they offer to men. I think that it is more unequal than what you are saying.

Women like this last respondent, will indeed find it more challenging to find work other than entry-level positions. If it were not for INA, and the few non-profit organizations providing computer training across the country, these women would not even have a chance at many of these entry-level positions. What remains to be seen in the Costa Rican context, is whether the job market will begin to accommodate more women now that an increasing number of them, even a higher percentage than their male counterparts, are seeking computer and skill training, as well as other forms of higher education.

With INA's recent interest in expanding computer skills to more Costa Rican's, what still lacks is a better understanding of the current labor market and how the marginalized groups they are reaching out to, particularly women, will fit into the structures. Since INA has demanded a concerted effort on its part to incorporate more women into non-traditional courses of study, such as computers, they could consider how a basic computer course could be used to address additional issues that Costa Rican women confront in the changing labor market. By achieving this and reaching out to more women, INA would be providing a very useful and necessary service.

Telecentros: A Community Approach to Expanding Computer Access

It is just another addition to our community, another entity that they brought in from the outside. It is up to you to determine if you want to take advantage of what they offer. For some it makes sense, others no. If you want to feel part of it you can. (Jessica, 18 year old single mother of 1)

Tlayacapan, Totolapan, and Tlalnepantla are rural communities about an hour by bus to the closest city, Cuatla, Morelos. Members of these communities rely on agriculture and tourism. Whereas most of the men and boys are dedicated to migratory agricultural endeavors, such as tomato and nopal cultivation, most, but not all of the women, are homemakers. Isabel works alongside men every day

in the nopal fields. She also took a computer class to “enrich her life.” “I am a very independent woman. I don’t like to spend time just sitting and wasting time. I have had a lot of problems with computers, since I prefer working in the fields. But learning how to use a computer has taught me so much, so much of what is out there like educational things, and music, and videos and other interactive things.” Isabel has been able to take advantage of a class at the telecenter in part because, “I am independent, and also because I am not married, no children, and don’t have someone telling me what I can and cannot do.”

For the women that are involved in income-generating activities, most cater to the Mexico-city tourists that visit Tlyacapan and other villages on weekends and holidays. Many women have opened up small eating establishments with only a *comal*, or outside grill, and a few tables where they make regional specialties with nopal. Other women make and sell their artisan wares, particularly ceramics. The two entrances to Tlyacapan are filled with shops and food stalls that are opened on weekends. During the week, the community looks and feels very different after the weekends where the doors of all the establishments are open and boast the very vivid colors typical of central Mexico. Unlike Tlyacapan, the other two communities do not attract many visitors. In addition, their telecenters are much smaller in scale and operate during very limited hours. Most of my fieldwork occurred in Tlyacapan, even though I conducted interviews in the other two communities of Totolapan and Tlalnepantla.

Two years ago, the first community Telecenter opened its doors in Tlyacapan. Offering not only open internet access, but also classes, it was the desire of the founder to promote computer use to children and adults, men and women. But it is easy for a lay observer to note that the telecenter is not used equally amongst these groups. Most of the users who take classes are children in primary or secondary school. Further, most of the users who pay for hourly computer use and internet access are high schoolers and college students who are working on school projects.

With only six computers, in addition to the one used by staff, the telecenter cannot accommodate many users, but it rarely fills to capacity during the open hours. This is, in part, because there is a new Internet Café that opened up on the other side of town offering computer access for the same rate of about US\$1 an hour. While the director of the telecenter sees stark contrasts between the services that the telecenter provides in relation to the internet café, most users do not. “Well I guess the difference is that the telecenter was here first since the cyber is only a few months old,” says Juana. Others notice a few subtle differences like, Gloria who said, “At the telecenter the staff are there if you need help, like printing or something, and at the cyber they are just there to take your money.”

The telecenter is struggling with low enrollment, even in the specialized courses they have created for women in the community. None of the six week courses during the summer of 2003 enrolled a single woman. While some women

clearly see a need for these courses and value their experiences, most do not understand how computers can help their life in any way. Dolores lives near the telecenter and was originally recruited to participate in one of the courses geared at community leaders. “I just didn’t have time. I signed up thinking that I would, but with all my responsibilities it just didn’t seem so important for me. I don’t really know how a computer can help my community,” she shared in a private interview. Others, like Adriana, were instrumental in the beginning and have become key recruiters for new students. She recently finished her college degree in geography, at twenty-three years of age and recently gave birth to a son. She is currently living at home with her family. She has plans to move to her boyfriend’s home and live with his family, which is located about ten miles from the center of the city in the rural outskirts. “I am interested in all things related to computers, like it is my second career,” she shared during a private interview. “I have helped out at the telecenter trying to promote computer usage by children and other people of the community of Tlayacapan. I know that it seems foreign to them, but the truth is that it can open up your eyes to things if you just let it.”

Particularly at the beginning, the telecenter focused most of its efforts on recruiting people to take courses. “I didn’t know what a telecenter was, but two years ago I had an opportunity, well they invited me to participate in a course. I had never used one and I was really scared. From the moment I touched one, it opened up my curiosity to learn,” shared Yeni. For Marcela, the telecenter offered

her new experiences, “For me it was by mistake that I found out about the telecenter since at first I didn’t even know what one was or that they were expanding at the level of Latin America. Many people don’t know that here in Tlyacapan there is a telecenter, in part because they are not informed, but also because this is so new for us here.”

Because of cultural and social norms, it has only been about a decade since women continued past primary school, now many now work towards degrees of higher education and hold professional jobs. I interviewed one of the only female doctors in the community who participated in a computer course in Tlyacapan. “I took that course because I was being left behind. Even though I am educated, there is a lot I don’t know. It is helpful for me to look up information, even though a lot of medical information is only in English.” Most women have elected to take the course because of professional reasons, like this elementary school teacher, “All us teachers took a course together. Now we are teaching, at least theory, to our students, so when they use a computer it won’t be so foreign to them.” Computers are becoming an important tool for people to learn about their histories and share with others. The teacher continued:

The advantages it brings is that it opens up the eyes of people who don’t have an opportunity to travel beyond the state. By means of the internet you can look up information about another state. In Mexico some don’t really understand anything about the Ruta Maya. But with information from the internet I can download information and have the ability to say ‘look, here are your traditions, your foods.’ The world has become a lot smaller since we now have computers.

There is a strong sense of nationality and locality in Tlyacapan. Like the teacher, many other women who have access to the internet look for information about their country and community. One of the first projects of the telecenter was to create a webpage with the history of the community⁴. This project has been a source of great pride by those involved.

María's husband, like most men of the community, migrates for work. Her husband is currently in the north of Mexico, just finishing some time in the United States. "I took the class because I wanted to do something for myself. I wanted to learn what was beyond this small town. The internet is like an airplane and it lets you travel to wherever you want to be." A nurse in the local public clinic also took a course. She is encouraging other women to learn how to use computers and search on the internet. "So many women suffer from domestic violence and the internet is a good source of information. Because this is a small town they don't feel comfortable sharing personal information at the clinic. But, on-line, they can communicate with other women and learn about personal issues." While many women think along the same lines as the organization, many other women and men do not, and the telecenter has not been a welcome addition to the community by all.

Most of the telecenter computer users are young adults. In addition to open computer hours, charged at an hourly rate, and classes, the telecenter also offers

⁴ To view the community history webpage, visit <http://www.telecentros.org.mx/tlaya.html> (last accessed 10/1/04)

other services. During the several months of participant observation, I noticed that there was not a single man that used a computer, other than the supervisor and teacher. When men did come into the telecenter it was to pay for a class their child was enrolled in, or to ask for services, like typed letters or documents. This is one service that the telecenter provides for members of the community. For a reasonable fee, the telecenter staff will draft letters or type book reports or theses. While this is an important service, it in some ways contradicts the philosophical approach that most telecenters have that they are facilitators and provide a computer access point for people to learn.

Telecentros: If You Build it They Will Come (if they can)

Well I started classes. Couldn't finish them because I have too much responsibility at home. You know the kids need to be looked after and food has to be prepared. And my husband never understood why a housewife needed to use a computer. And I agreed. (Rosaura, married mother of 4)

While this community telecenter was conceived and constructed with good intentions, there has been some discontent on the part of several members of the community. "Our children were doing just fine before. Now with computers they have all these new ideas of what they want and what they need. Yes it is great for them to aspire to be something more, but the reality is that they will end up in the fields working just like their father. I don't need them coming home asking me for

a computer and all,” shared Magdalena a mother of four sons and a daughter. While providing a need on the one hand, many organizations like this telecenter often do not consider all the negative ramifications of expanding technology to a rural community.

Most of the discontent towards the telecenter has been focused around the swift societal changes that have been brought about by computers. “The younger generations are being forced to use a computer. Like a thesis, before you could hand write it but now it is required to be typed. Before long, everything will be computerized,” shared Ana María. Many other mothers also commented that schools are requiring more detailed research projects that necessitate information beyond which is available in the one room public library in town. “The disadvantage for the young people is that they spend so much time looking for information for school. But sometimes they also spend time looking at pornographic sites. What good is a computer if you find disgraceful information when you are trying to do a school assignment?” shared a single mother of five.

There has been a lot of pressure put on residents of these rural communities to modernize. A lot of mothers indicated that they were saving for a computer for their child. Susana’s husband is a migrant worker who recently sent home money to buy a computer. She still has not purchased one since it was more important for her to first put the money towards their debts. Her vision of technology has been

greatly influenced by the stories her husband shares with her the two times a year he returns to Tlyacapan.

A lot of parents are saving for computers since now it is a necessary learning tool for children. We need to set an example for our children and for this community so we are not left behind. The good thing now is to see families who have a computer. Their children sit for hours in front of the computer doing work or playing games. This is the modern way of life, not to have your children working in the *campo* or playing in the streets.

While Susana believes in the importance of owning a computer, she does not make any references about using the community telecenter or cyber café. The personal computer seems to be the material possession that most defines your class and community standing, changing what she aspires for.

Other than the impact that it has on children, the community center has also altered the roles of women. “I don’t really ever leave my house, except of course to go to the market to buy food for lunch. But, from time to time, I can now go to the telecenter and look up information, like gossip about my favorite soap operas or a new recipe. I can also chat with other people in Mexico and Latin America,” shared Josefina. But while many women like Josefina have been able to find the time, resources, and permission from spouses to use the telecenter, many other women have not. “So I started to take the class. It was only two nights a week. But then my husband got worried about what they were putting into my brain. He said women and mothers don’t need to be looking into things that aren’t important to them. So he stopped giving me money for the class. It probably is

best anyways,” shared Magdalena, a married mother of six. In addition to these forthright comments regarding the lack of support by male partners, many other women experienced more subtle reactions from mates. “So he never said I couldn’t come. But he did make me feel guilty about spending the money when we should be spending it on our children,” said Gloria about her husband of three years. Or as Kayle shared, “It always seemed like there were extra house chores to do on the days I wanted to attend class. It always made it more difficult for me to go, so I ended up not finishing the course.”

The time consuming household responsibilities that women have was easily observed during my many home visits. What was more striking, however, was how women were confined to their homes. Even a visit to the market or a friend’s home could be a point of contention between spouses. Most women needed to ask permission to leave the home to meet me for an interview, or even to do their daily errands around town. Given their social and cultural barriers, many women could not fully take part in telecenter activities and it has hindered its success.

Telecentros: The Future of a “Community” Telecenter

The community telecenter is a constant reminder that you can finish secondary school, and girls too. It provides us hope that even though we are from a small village that we can finish our degrees and do something other than what is normally expected from us, either being a homemaker or a laborer. (Josémaría, 18 years old)

Telecenters in the developing world were conceptualized to expand computers and the internet to a wider audience, paying particular attention to cultural, social, and economic conditions of the community. “I think that computers have the ability to be useful in the home. It can really open up your mind and can open up communication between children and their parents. Things are changing, but it isn’t going to happen now, you know we are used to our ways,” indicated Carolina. While residents like Carolina are optimistic about the changes computers can make, many are not so positive. Many fear that the new knowledge brought by the internet will negatively affect their community. Part of the reasons behind this sentiment is that many members of the community feel disconnected to community telecenters in, and around, Tlayacapan. The facilitator resides in Mexico City and only a handful of people were involved in the implementation of the telecenter. It appears that if people were participants in the creation of the telecenter, then there would not be as many mistaken ideas about what computers can do for children or women.

As demonstrated by the failure of several outreach classes to women, many people do not see a need for computer skills or have other obstacles that prevent them from participating. But, as noted in my several attempts to get women together for focus groups or individual interviews, there is a sense of apathy towards the telecenter. There are a complex set of cultural, social, and even economic barriers that prevent people from taking part in community telecenter classes or using it as a resource. If more people were involved in planning and felt a stake in the organization, the community may feel more integrated in the organization. While the telecenter is providing a useful service to the community, they must continue to strive to let the needs of the community dictate their actions if they want to be more than just conceptually different than the local cyber café.

INATEC: A low-cost alternative to high-cost courses

It is cheap, well-renowned, and also because it is close to my house and also because they teach well. And also because each student has their own computer because elsewhere they put two a computer and then neither learns a thing. (Lorena, 19 years old)

In Nicaragua, there are few options after one receives their *bachillerato* or high school diploma. Since only a small percentage of eligible students continue their education in college, many others choose short certifications. Many private institutions have recently opened their doors throughout Managua, most offering

forms of computer classes. These classes are often geared towards high school graduates, university students, or professionals who need additional training in computers. The cost of such a private program is the most prohibitive factor, many running \$20 or more per month.

The National Institute of Technology (INATEC) offers an alternative. This institute offers high school degrees, as well as post-high school training. The closest comparison to the US system would be a vocational high school, since INATEC focuses on trades. The courses that are offered here for certifications are open to students that have passed their high school degree. Many of the students are recent graduates and are unsure of what they want to do, are taking courses to open up more job possibilities, or taking classes as a prerequisite for another school or degree program. As described earlier, computer skills have become a way to weed out potential employees, as Jessica shared during a focus group,

I am studying computers because it caught my attention...It is nice, you understand that now everything is super-advanced and like everything the wheel of computers is constantly turning. With all this, you understand, that there are as many university students that are about to finish their degree and don't even know how to turn on a computer...but when its time for them to look for work, they won't be able to because everything now is the computer. Everything is the computer. It is the fundamental work requirement...I feel happy because now I know how to turn it on, turn it off, and when I started classes I didn't even know that.

Women like Jessica are finding themselves in a difficult predicament because learning computers is necessary. Claudia said, "I am in my third year of the

university and I didn't even know how to turn on a computer. So, my mom put me in this course because it is the basic requirement if I want to work.”

Unlike the women in the School For All program in the previous chapter, the participants in the courses by INATEC all have finished their high school equivalency. While some high schools in Nicaragua teach computers as part of their curriculum, computer technology is not widespread enough, particularly outside of the urban area of Managua. The average age of students participating in a computer course at INATEC is around twenty years. The courses are mixed with men and women, with women comprising only about a quarter of the students. While the students are motivated to study, the classroom experience does not offer anything innovative. The course is broken up between theory and practice, and the teachers depend on old-school pedagogical techniques, such as rote learning, where the teacher lectures and the students copy down what he or she says. “Well, ok, the truth is that you get real nervous because sometimes the teacher does not have any patience and says, ‘turn on the CPU’ or also ‘insert a disk’ or something... So I get scared to ask someone who knows more and if the teacher is patient sometimes looking on or watching the teacher is easier for us to follow,” shared Marcela.

There are many reasons why students select INATEC, mostly because of family contact, location, or cost. The women in the following exchange discuss

some of the reasons why they chose to study at INATEC rather than other institutes:

6: In the first place this school is important, because for example my neighbors and my neighbor, who is now an engineer and was the only one to go to a good university, all finished here. In general, people who start here already know a lot, right...When you study at a good school, and you graduate, they ask you 'which school did you go to? Manuel Olivares?' It is well recognized, so you can even brag a little, do you understand?

4: And also it is because it is one of the least expensive centers. The others are just extremely expensive.

6: They each you well, and it is also closer, well, it is the closest center to where I live

Beyond these reasons, some students feel that because it is government run and funded that it has more recognition when looking for a job. In addition, some feel that private institutions, while providing superior infrastructure, do not offer the same caliber of degree. "Sometimes people wonder why people study at a private school. I see that the private schools are better, and I don't know but sometimes private schools don't teach their students. Sometimes people say that their grades are bought and those who study at public school are those who really know," Marissa poignantly remarked. Others agree and go further to say that private schools are more interested in money. "What happens is that they prefer money over their students. They worry more about having good accounting books than making sure the student learns. They don't care if their students are falling behind," shares Monica who had previously studied at a private school. She was

denied entry to her class on the final exam day because she was late on a payment. She never graduated from that school and is now starting again with INATEC.

Not unlike the other organizations focused on in this study, the participants in these computer classes decided to take the course for several reasons. Most students decided to take the course because it was a work requirement, because they feel that computers are interesting or important, they didn't want to feel ignorant, or simply because they saw this course as a springboard to bigger and better opportunities.

3: It is the basic requirement to find work. Now if you don't know how to use a computer, you can't, you just can't find work....

1: Like what she said, and also because if you don't know they you feel ignorant. And at least for me I chose this because my girl friends know how to use a computer. One feels bad seeing that your friends know and you don't...

2: And with all the good things now like the Internet, friends, communication, all this is super advanced...

4: It is also good to be able to stand up for yourself. I have a friend who is in his fourth year of his degree and he doesn't know how to use a computer. I know that that can make you feel bad. He tells me, 'Keep on studying. If you want a chance at life just keep on studying.'

But is it feasible for these women, just barely out of high school, to find formal work? Can this course help make their dreams come true by giving them access to work?

INATEC: Too Little, Too Late?

I live here, in the neighborhood. I have two precious children. I am a single mother, once married but now separated. Like all mothers I look at my children and fight to get ahead in life. (Renata, 18 year old single mother)

Since INATEC is a government-run organization, it suffers from many of the same ills as other governmental organizations in Nicaragua that are tight on budgets, short on personnel, and are founded on an extremely bureaucratic organizational model. The headquarters of INATEC sit near one of the court houses in Managua. The gender-initiative office sits on the premises, but in its own self-contained office. There are three women who run this section of the organization: the director, the program administrator, and the personal assistant. Only the director has a computer in her office – the other women share access to a typewriter. Even at one of the locations I conducted interviews, all of the administrators shared one computer, a very paradoxical image since they are primarily teaching computer skills.

Some of my respondents spoke about how the organization could improve.

4: They need to be more organized. I know they are trying to help a lot of people, but at the same time then we don't get the work materials that we need...

1: For me the best would be for them to get us newer computers as well as help us buy the supplies that are required for the class...

Despite some of the ways that students felt that INATEC was resource-poor, many found their experience highly valuable. While most of the responses from the women indicated that the course was a positive experience, after the course they articulate that they have a lot of hesitations regarding their abilities.

3: I think that this is the reason they tell you to come take classes, that if you study then you will have new options for work...

4: And also if you know how to use a computer you can find work. Also, even if you find work as a cashier there will be work for you...

1: Because all work is now manual...

2: Of course, all work now is computerized...

3: And they will ask you, 'do you know how to use a computer?'

4: And then they ask you which programs you know how to use. 'No, no I can't.' So you lose that job even if you know other things...

While the students were motivated by these reasons set forth by the institution, they often felt disillusioned when they tried to look for work themselves.

1: I think everywhere it is hard to get ahead because of economic reasons, for family reasons, for reasons like me, since I had children when I was really young, and also because they tell you that you don't have what it takes to have a career and be educated...

2: For example, more than any other reason I am here because I have a scholarship. If they hadn't given me a scholarship, I would

not have been here studying. It's great, because my dad doesn't have the ability to pay for me to take a course...

3: It is also really sad when you can't study and you see your peers that study are now finishing up and getting ahead in life. And you see how you are just left behind feeling bad about yourself. I am also here because of a scholarship and if it wasn't for the scholarship I would not be studying. I would just be in my house doing what I normally do. So I hope with this course I won't have to stay at this point in my life, I can actually make something of myself...

The main obstacle facing these students is the lack of additional resources, beyond a computer course, that is offered through the gender-initiative at INATEC. The main goal of this entity is to incorporate more women into technologically-focused courses. This course, like many others that do not specifically address existing social, cultural, political, or economic issues of the target population, in this case women, fail to consider ways they can assist beyond just transferring basic computer knowledge.

INATEC: A self-selected group of feminists?

Well, for example my mom works but doesn't earn that much money. Her husband tries to help her out. We are three siblings. My older brothers, well, are at a point where my mom still has to help them out. So, I want to be out of my three siblings, the one that my mom says, 'this is my daughter, the professional.' (Rebecca, 18 years old)

While this course does not focus on any gender relations nor does it prepare women for inequality in the workplace, there are some strong feminist

feelings amongst the participants. Many of the women commented that they had already proven themselves in order to have achieved as much as they had, and that completing a certificate in computers was the natural next step. “For me I finished high school even though I was the first woman in my family to do so. I am not married and am without children. I can make something of myself and computers are just the next thing that I will overcome,” shared Johanna.

Unlike many of the other organizations in this study, INATEC has the lowest percentage of female participants. While there are more women than men who complete high school nationwide, and enrollment in higher education is increasingly including more women, the raw numbers of women who are professionals is still relatively low. Women who are able to complete educational achievements after high school often come from middle and upper-class backgrounds. Those from working class backgrounds are very determined individuals by nature and often have strong feminist views about women’s role in society. “I always wanted to be the best that I could be. Well, my self-esteem has motivated me to get to a level of achievement personal and professional. I don’t think it is a gift, but the way I look at the world and my place in it,” Elida eloquently shared in a focus group.

Unlike other courses that promote a healthy self-esteem and encourage female empowerment, INATEC does not address these issues. One of the spurious outcomes, however, has been organizing a group of women. These women are not

organizing around a particular issue, but rather going through a process of personal achievement together.

1. The thing that I have learned more than any other tool has been the power of women. Look around here, at the women in this group. We come from poor backgrounds and have had a hard life. But we are here...
2. And we are working together towards a goal. We all want the best for each other, so we encourage each other...
3. If women ever want to get ahead, we have to work together to break free of the inequality in the work place, and in our homes.
2. Working together with other women has taught me that women can achieve great things with or without computers. This is just another tool that we have.

In addition to the ways computer skills will be useful for women to find formal work, they also discussed the many other benefits of computers such as accessing information and connecting to other parts of the world. “It is easy to feel separated from the rest of the world. But with access to the internet, I now feel a part of something larger. It is important for women worldwide to begin to organize around important issues that affect us. Maybe computers can be a catalyst for change,” Lilian shared in a personal interview.

The female participants in the INATEC program have identified many feminist beliefs about their role in society. The organization continues to recruit women, especially for non-traditional courses such as computers. However, INATEC fails to consider the inequality that exists in the workplace, and in the

home. “It is great that I am taking this course, since I never thought I would be studying computers. But what will happen once I finish here. The market is so tight and there is a strong preference for men. They get more jobs and are paid more. I hope this course actually makes a difference for me,” Dora commented in a focus group. Other women also agreed that with the existing unequal structures, they would face extreme barriers to obtaining formal work. While these women could greatly benefit from additional skill training, INATEC has yet to provide any. Hopefully more women will be recruited in order to take advantage of this low-cost computer course and have the opportunity to congregate with other open-minded women.

Non-Gender-Focused NGOs: Working towards expanding computers

Many of the challenges faced by the participants of the previous organizations were based on the fact that the content was strictly focused on expanding computer access and transferring skills, and failed to address other important social issues. These social constraints, namely gender, class, race, access, inequality, discrimination, are issues that the female participants face on a daily basis in their homes and in their communities. The obstacles that they face,

specifically because of their gender, do not stop there but transcend into the classroom, to the job market, and beyond.

In the case of Tlyacapan, the organization failed to recognize how important access is. Of course, one could argue that the telecenter was located near the center of town, only a fifteen minute walk from even the more remote areas of the town or a short ride on the combi for those that reside in the rural outskirts. But access, as we have seen, is a problem deeper than the location of the telecenter. For women in this community, access may encompass getting permission from a male figure, finding time to partake in non-domestic responsibilities, and opening up their minds to a new way of thinking about their role in their homes and communities. Access alone cannot change the way people view technology or the extent to which they incorporate it in their lives. If the telecenter wants to become an entity run by the community, for the community, it needs to start with addressing the needs and concerns of the women. By doing so, the organization would quickly realize that underlying tensions about women's roles within the household need to be addressed, and considered, when incorporating women into the decision-making processes of the organization.

Perhaps the women who complete their certificates at INATEC will find it most challenging to find work. The inequality within the Nicaraguan society makes this nation the most polarized in the context of this project, with the smallest percentage of the population having the necessary education and skills to

find formal work. The vast majority of Nicaraguans are underemployed. With a small formal work sector, most Nicaraguans participate and rely on work in the informal market. As Nicaragua is beginning to make a shift from a primarily agricultural society to more advanced and industrial-based, the new positions in these sectors become very coveted. The last decade has spawned new forms of inequality in Nicaragua and the society, as it stands now, is perhaps more unequal than ever before. Those who can find work are almost sure to come from the small middle and upper classes, and the overwhelming working class majority continues to be relegated to poorly-paid service-sector employment. Even as more students, particularly women, obtain high school and advanced degrees, they continue to experience severe inequality in the workplace because of their gender and their class. INATEC is failing to recognize the obstacles that both male, but particularly female students will face when they finish the computer courses.

In the Costa Rican context, the female students at INA will face some levels of discrimination because of their gender. The work place continues to favor males for positions of power, relegating women to entry-level positions. The role of Costa Rican women remains in the home. While she is often a strong figure within the household, this power does not transcend to work outside of the home. INA could easily assist the female students by working with them to overcome discrimination if they provided additional skill training, such as interview skills or work-place communication. These skills are an integral component to producing

confident workers. If more female graduates of INA were taught some of these life skills, they may be better equipped to deal with, and overcome, workplace discrimination.

CHAPTER 6: CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The development agenda on women's education in the Third World has focused on improving the lives of women through formal and informal education. Educating women can improve the national economies, while improving the lives of women themselves. It has been demonstrated that extending and expanding educational services to women, particularly girls, has a great impact on the society as a whole. One recent study (Hadden and London, 2000) found that the education of girls, in and of itself, as well as gender equality in education (the equal access to education for boys and girls), has several benefits for society, including longer life expectancies, lower death rates, improved basic needs provision, and more rapid rates of economic growth. By focusing on the expansion of computer skills, it is the goal of these organizations that I studied to provide more opportunities to women in the volatile labor markets of the Third World.

Theoretical Implications

Extensive improvements in technological infrastructure and the expansion of computers are currently underway in Central America and Mexico. This process is fundamentally changing the labor market dynamics by changing job requirements, impacting social stratification, and modifying the existing norms of cultural capital. At least initially, the expansion of computers and the internet has led to increased marginalization and discrimination by creating yet another division between the haves and have-nots. However, because technology is increasingly becoming central to the economies of developing countries, it is vital to include even the most marginalized groups in the process by expanding access to rural areas and promoting computer use to women and the older segments of the population.

Many programs, both those initiated by governments and by non-governmental organizations, have started to close this gap by providing computer training geared at groups with little or no access to computers. The programs that were part of this case study were working towards this goal. However, different organizational philosophies, funding sources, size, and a women or gender focus, greatly impacted the success of the programs. Organizations that took into consideration the needs of the students, in this case the backgrounds of women, their current constraints at home in the workplace, and their place within the

social, economic, and political milieu, were more successful than courses that focused solely on expanding computer skills to women without considering the social implications for the students. The former group of organizations can be categorized as falling into the Gender and Development approach, while the latter are part of the Women in Development camp.

The courses that employed the Gender and Development approach to expanding computer skills and access to women were able to address women's issues, women's roles in society, and concerns about equality in the home. These courses also focused more extensively on promoting individual self-esteem and group solidarity. By challenging the existing power structure that represses women, the courses were empowering to women, allowing them to gain more control over their lives. This process and the results of this process is empowerment.

Some of the female entrepreneurs in this study incorporated technological tools as a method to improve their home-based enterprises and gained a sense of self-worth and empowerment. But there is no overriding evidence to suggest that possessing or mobilizing these skills actually emancipates or empowers women on a large scale, in all aspects of their life; nor does this mean that all women benefit from the experiences of a few. In fact, my research suggests that while the process of acquiring skills and engaging in an environment outside of the home with other women can be empowering, there are many social and economic obstacles that

prevent them from acting as full and equal actors in larger society. This does not mean, however, that we should not continue on the long road toward bringing more technology to marginalized groups. What it does mean is that the expansion of technology must be gender-sensitive and appropriate to the region, society, and culture. It also sheds light on how the benefits of focusing on women can have an impact on changing norms within the family, opening up the potential for longer-lasting change. Expanding computer-based technology in the developing world may not resolve all problems inherent in our globalized world, but it does take us one step in the right direction.

Empowerment may be one goal of a larger project, but should not be relied on as the central tenant, because too often it requires that individuals facilitate their own development and the development of their communities. Empowering individuals is necessary, but insufficient in producing social change. For that reason, I contend that programs that embrace applied and participatory educational agendas actually increase women's social and cultural capital, producing tangible and observed benefits for themselves and even their children. If this process is also empowering, it will lead to even greater implications on an individual level.

The Six Cases Revisited

In the previous two analysis chapters, I presented a distinction between the experiences of women who attended courses at organizations that were identified as either having a gender or non-gender focus. In the first analysis chapter, focusing on the gender-focused organizations, I outlined many of the benefits associated with the computer classes. In addition to the benefits associated with acquiring computer skills, the women also shared several ways in which the computer classes had additional indirect benefits. Some of these benefits included increased self-esteem for the women. Many participants felt that they learned to value themselves more after the course, and the sense of empowerment they obtained from their newly acquired skills radiated into their personal and professional lives. For example, some participants noted a change in their self-esteem relating to how they saw their role within the family. Whereas prior to enrolling in the course many of the women were homemakers, or saw their role within society as being relegated to only domestic responsibilities, the course changed their perspectives about their abilities. Many women who had their own small business, as was the case for all of the participants in the Omar Dengo Foundation course, felt re-inspired to dedicate their efforts in their businesses after completing the course. Furthermore, many of the younger and non-working women felt more confident in their abilities to search for a job.

Beyond the renewed self-esteem, the women were also empowered by their experiences in the course. This was noted by the many instances where the increase in self-esteem resulted in the women making tangible changes in their lives. The women participants in School For All, for example, began to look for work outside of the community, feeling more confident about their abilities. The Cisco program, which provided rural and marginalized women opportunities to study, resulted in the female participants feeling empowered to find internships and businesses traditionally not accustomed to working with Mexican women, particularly not those from the rural highlands. Further, several of the women in Costa Rica who, prior to taking the course had computers in their homes that were only being used by their husband and children, now found themselves taking advantage of their in-home technology.

In addition to these benefits, the gender-focused courses provided both formal and informal education about women's rights and roles in society. The gender-focused organizations were successful at asserting the importance of education and the increased independence that can be obtained by women. The manual that the Omar Dengo Foundation created for the course was specifically designed for women who own businesses. The materials have testimonials about women's success stories and text boxes about women's rights according to Costa Rican law. By formally recruiting women to the Cisco program and conforming to minimum requirements about female representation at the university, the

educational environment at Cisco fosters equality. The many study groups formed by the students with School For All created solidarity amongst the women that carried over into their personal lives, creating a strong community of single-mothers and their role in the community.

As we have seen, many of the benefits to the women were brought about not solely because of their new computer skills, but rather through the efforts of the organization to create an educational environment that fostered and celebrated the uniqueness and diversity of women. The extent to which the women directly benefited from their computer skills depended upon many factors, most important being the woman's level of education before the course.

The non-gender focused organizations also trained women to use computers, but the extent to which the women were able to use the skills depended upon their prior education. Students from both INA and INATEC, which required high-school equivalency, were more equipped to absorb these skills and make use of them after the course. In Tlyacapan, on the other hand, the few women who participated in the course found less direct use for their new skills, unless they were already educated as the few women that were highlighted in the analysis.

What lacked in these three programs, however, was the organizational perspective and vision that they were serving women. Their courses reached out to people, in general, and while all served lower-income and more marginalized populations, they did not openly strive to address issues that affect women. If the

telecenter had looked at the reasons women did not attend the classes, for example, they may have addressed some of the social and cultural obstacles women face when partaking in activities outside of the home. For INA and INATEC, these courses could have taken into consideration the divergent experiences that men and women have in these societies and also how men and women have variant exposure to computers.

While there are some stark differences between the organizations that were categorized as having a gender or non-gender focus, the end results were not so dissimilar. One argument for this similarity is that, by nature, those women who enrolled in the computer classes already had a high level of self-esteem and self-assurance. Also, while several of the courses in this analysis were coed, even the women enrolled in these courses found companionship and solidarity with the other women. Lastly, while the intricacies of each country differ, in general, the sites that I selected exhibited similar labor markets, so women in either the School For All or INATEC programs faced similar obstacles when trying to utilize their computer skills after the course.

In sum, there are some clear differences in class and socio-economic development levels between the three countries. In these cases, there are some clear differences in the socio-economic status of the enrollees. In Costa Rica, for example, there are middle or lower-middle class students seeking to improve already high educational qualifications. Conversely, in Nicaragua there are

working-class students with little or no formal education. Such contrasts illustrate that no amount of ICTs can compensate for structural inequalities in society. These structural inequalities are higher in Nicaragua than elsewhere, except perhaps in rural Mexico. These contrasts are important to understand the context in which ICTs are being introduced and the likelihood that women will be able to change their status in the job market. What it does not demonstrate is how different courses and organizational foci can also influence the lives of students. So while economic indicators can identify some ways that introducing ICTs will benefit women in a given country or region, this data alone is insufficient to indicate whether and in what ways the program will be successful for women. This study provides evidence that even in regions like Managua, with grim economic indicators, women can and have benefited from ICT-based computer training.

Implications and Future Research

The areas of future research on this topic could focus on the long-term viability of education and computer training for women in the developing world. Important questions that need to be resolved include: 1) Is expanding computers to poor women beneficial?; 2) Is there a certain level of cultural capital that is

required of women to be able to take advantage of computer technology?; 3) If so, how can women gain this cultural capital?; 4) How is empowerment best fostered within the educational and technological arenas; and 5) Is this a practical development approach and what goals does it achieve? These questions would contribute to a more complete picture of the nature of these development programs and how they impact the lives of women.

While my comparative case study was able to highlight the experiences of women in different countries, in both rural and urban areas, and of different social classes, additional studies that compare these data across regions or continents would provide a more holistic view. Such a large-scale study would also identify why some approaches work better for some women in some cultural, social, and economic situations than others. Longitudinal studies carried out before, during, and after a woman completes the course would also provide a new perspective on the efficacy of the computer and education for development approaches. Studies that operationalize gender and analyze male and female constructions as they play out in society may also provide a unique understanding of how some of these organizations contribute to our knowledge of Gender and Development.

The data and results from my study have profound policy implications. The analysis sheds light on the beneficial components of computer classes for women. This information can, and should, be used to improve course curricula, enhance

approaches to transferring skills to women, and develop new ways to address deep structural constraints that repress women in the public and private spheres.

Despite all of the positive stories that the students shared in focus groups and personal interviews, this information cannot be fully analyzed without an understanding of how their experiences fit into the rapid changes in society, particularly in the developing world. We need studies that compare the impact of courses on women over time, both in terms of jobs and in terms of continuing personal and family benefits. It is apparent that in front of family, friends, peers, and colleagues, the women, in general, feel a sense of fulfillment and satisfaction with their achievements. However, they are rarely able to be completely absorbed into the technological and financial worlds that computers require. We must ask whether we are promoting ICT training to women in the developing world to foster modernization and, if so, does this merely continue in the same path of most development schemes that diffuse new needs, wants, and desires into the Third World?

It may be more fruitful to look into the experiences of these women from their own perspectives. Maybe then we can see their faces light up when they talk about using a computer alongside their child, or feeling, for the first time, connected to their family, friends, and the rest of the world. Then, is there sufficient evidence to support the pursuit of such ICT programs given these positive experiences? It is hard to deny women this experience when they have

experiences like Gloria who said, “Now it is different. Now I know how to do things, and really the personal improvement is so big because I feel more capable and I feel more fulfilled in my work.”

While women successfully acquire basic computer skills through courses, they continue to be relegated to pink-collar or informal jobs, and continue to be burdened by their triple-role of undertaking and managing reproductive, productive, and community activities. Like the studies on micro-credit (see Rankin, 2001), I believe that the data from this case study demonstrates that it is not access to computers alone which is empowering, but rather the individual and group experiences that women have successfully carried over into their personal and professional life which have proved important. At the same time, women are continually disempowered by market structures and social and cultural ideology which disproportionately organize and distribute resources against poor and marginalized women from the Third World. Development programs, in general, and ICT courses, in particular, must promote the restructuring of women’s social roles as an ultimate goal if they wish to foster women’s full empowerment.

I do not think we are ready to resolve this debate over the validity of ICT for development. From a development perspective, such programs are successful if they foster the growth and expansion of ICTs in key industries in the developing world. But such programs can also be successful if they empower students. At this point, women may only be empowered in some spheres of their lives (Jejeejboy,

1996), and may even feel disempowered in others. But, I believe that the voices of women in the developing world should be our guide; this should not be one for the developed world, multi-national companies, or even men to define. As stated by Dora, a participant in the Omar Dengo course, “The democracy of women is limited because we take care of the house, husband and all that...but not only can we take care of the house and family, but we women can also be professionals, business-women, occupying important positions in society and the [Omar Dengo] Foundation showed us that.” We should base our conclusions on the experiences of the participants involved on a per-program basis, since in many ways the Foundation brought about meaningful changes in lives of over a hundred women. But this was a small-scale and short-run success. Like most NGOs, the organizations focused on in this case study did not address larger social change, but rather worked with marginalized women to teach them how to better cope within our unequal globalized world. As a result, the women continued to be disempowered in many aspects of their lives. So, while these participants gain control, access, and rights to information and communication technologies within the classroom, there remains much progress to assure that, at the same time, the women do not lose control in their social, economic, and political lives as computer technologies infiltrate their communities and homes.

APPENDIX 1: OVERVIEW OF SITES

	Program	Size	Funding	Area Focus	Gender Focus	Commitment
Costa Rica	INA / Informática	Large / Small site focus	Government agency with outside support from World Bank	Predominantly urban; working & middle class	WAD	Small-scale economic development will improve country as whole
	Omar Dengo Foundation / Microempresarias	National Organization / Small; approx. 200 women nationwide	World Bank	Urban and rural; predominantly working class	GAD	Technology as key towards development of Costa Rica
Mexico	Cisco Learning / UTVM	Large – 10,000 students in 215 sites / 150 enrolled students	Foreign business capital combined with national educational funding	Urban and rural; predominantly middle-class	WAD	Economic development and expansion of technology to new markets
	Som@s Telecentros	Small – less than 8 computers per site	Canadian Development Bank	Rural Communities; poor areas	GAD	Grassroots community development (social and economic)
Nicaragua	INATEC / Informática	Large / Small site focus	Government agency with external funding	Urban and rural poor	WAD	Vocational training for the working class
	School For All	Small – 22 students	Private US Donations	Urban poor	GAD	Empowerment through access to opportunity

APPENDIX 2: FOCUS GROUPS IN ACTION

Overview

At the time of my proposal defense, my committee determined that for my project I should aim to complete twelve focus groups, or two at each site. I quickly realized that the focus groups were yielding extremely rich data. Not only was this useful for the purposes of my research project, but the focus groups appeared to have some latent benefits for the participants as well.

Over the course of the year in the field, and twenty-two focus groups later, I have composed this appendix as an overview of my field work experience and how it specifically related to focus groups. It is my hope that it can be used as an introduction to the method as well as a guide for what future researchers might do and what, in retrospect, I should have done differently.

Why Focus Groups?

From the onset I selected to include focus groups as a method because my research questions were aimed at exposing individuals' perceptions about group experiences. While I was intrigued about the personal experiences in and out of the classroom, I was very interested in analyzing how these courses influenced the many realms of women's lives. In that regard, in-depth interviews could expose specific examples of the way the course impacted a woman's life. For example, an interview with a woman from the Omar Dengo course revealed a personal story of an exchange she had with her spouse. During an interview, many women felt comfortable sharing such personal stories. I was able to continue with probing questions, but rarely were the women expected to engage the issue beyond simply revealing the story or explaining the exchange. The focus group format, on the other hand, encouraged the women to take a story shared by a participant and contextualize it in the larger social and cultural milieu. For example, in many focus groups women shared accounts of problems they had with their spouses that related to the computer course. Once a woman shared her story, the other participants could then discuss and assess how this personal account can be understood as a group problem that affects most women.

One of the most positive outcomes of the focus groups was that the women were able to connect on a level beyond what would normally be anticipated. These

women laughed and cried in these focus groups. They connected with their peers in a new way and created solidarity around the issues that affected them. After a focus group in Nicaragua, two of the participants approached me and asked me when the next focus group would be. I explained that their commitment was finished, and that I was very appreciative for the time they had already volunteered. One of the women said that she felt so much better about herself after the focus group and that she connected with the other participants in a way that she rarely bonded with other women. In sum, the focus group environment and process promoted solidarity amongst the women and provided a forum for women to share and reflect on their common experiences. For many of the participants this process was empowering for them.

Creating the Interview Schedule

When creating the interview schedule, I attempted to begin with an easy question that encouraged each participant to respond. While I explained to the participants that their response to any question was voluntary, I found it very useful to begin with a question that was non-threatening and encouraged each participant to respond. I presumed that jumping into a complicated question too

early on may have turned off some respondents. By asking a simple question from the outset, even the more reserved respondents shared their thoughts; the question served as an ice-breaker in many ways. For my focus groups, I first asked each respondent to share with the group when, and where, their first experience was using a computer. The second question focused on why they chose to take this computer course, a question that allowed the women to see commonalities in their experiences.

Toward the end of my interview schedule, I dealt with questions that yielded more debate; questions about the divergent experiences of men and women in the workplace, for example. An hour and a half into the focus group, many women were comfortable and engaged in the topic to be able to reflect on these issues and openly discuss their opinions.

I worked very hard at developing and refining the list of questions, making sure that the topics had a natural progression between them. After moderating a few focus groups, I had a good handle on the questions and the flow of the groups, and rarely needed to refer to my list of questions. At the beginning, however, I brought with me the list of questions. While I did not force the group to follow the exact interview schedule, it often was the case that the questions picked up where the last question left off. After a few groups, I would keep a list of key words that would remind me about the main topics and issues I hoped to address in the group.

Even with a list of questions, as a moderator you need to be open to the fact that groups respond differently – no two are alike. The most challenging aspect of the role of moderator is to determine at which point the group is getting off target, how to bring them back in focus, and when to let them explore other issues, even if it is not specific to your goals. I often struggled with this because some of the most exciting data came from the unanticipated areas that were brought up in the focus groups. For example, in one group at UTVM, most of the respondents had fathers and/or brothers in the United States who migrate for work. It became clear from these conversations and exchanges amongst the women that this was an endemic problem affecting families of the region. However, one of the unexpected benefits to the women was the fact that they were often able to study because of the added income these workers sent back from the US or because without an older brother in the house, the girl children had access to the opportunities relating to education that would traditionally been reserved for the boy children of the family.

In sum, an interview schedule should be created based the research goals, knowing that you will have the task of moderating the group and leading them along a path from the first question until the end. That being said, this path is not the same for every group and you need to be willing to stray from that path when desired and learn the important skills of guiding the group back to the main path when necessary.

I also believe that a few run-throughs of the questions are very useful. I used my first two focus groups in Costa Rica as my trial groups. At the end of each group, I spent about ten minutes asking them to reflect on the focus group, particularly the questions and flow of the group, to determine how I could improve. This was very instrumental, as their feedback helped shape my final set of questions.

Selecting the Location

Since I was working with organizations, it was easiest to rely on their infrastructure and resources to hold focus groups. At first, however, this made me feel very uneasy. I felt that my work as an independent researcher needed to be physically separate from the school or institute. I felt that the validity of the responses could be compromised if the focus groups were held at the organization, since participants may feel that their confidentiality and anonymity may not be upheld.

As described above, I organized the first two groups at the Omar Dengo Foundation. At the end of the group I discussed with the women alternative locations and what their feelings were about having the focus group on-site or at

another location. All the women agreed that they felt comfortable in the setting, in part because they had been to the organization previously for classes. In fact, it made many women feel more comfortable since they were not trying to find an unfamiliar place at night. None of the women commented that they felt uncomfortable with sharing personal information because we were at the organization. In fact, many of the women in these initial two groups, and all for that matter, shared very candidly ways that the organization could improve their outreach to women in and out of the classroom.

In Tlyacapan, Mexico, it was not possible to hold focus groups on-site since the location was too small to hold the group. This may have contributed to the low levels of compliance I had, only carrying out one successful focus group. In this case, I rented out a floor in a local restaurant, the goal here being a discrete location that was well known in the center of town. I am not sure if the location selection impacted the participation rate. However, my recruiter for this location did comment that some of the women felt uncomfortable going to the restaurant, since it was not a common place for the local people to congregate. In this case, however, there were not really any other private meeting areas in the town and, at the time, the restaurant was the best option.

In Nicaragua, also because of lack of infrastructure, I held the focus groups in the house of one of the participants. This proved to be very successful, since all

the participants knew of the location and felt very comfortable in their surroundings.

Overall, the most important features to look for in a location are ease of access for the respondents and quiet surrounds. The former is of particular importance if you are taping, and later transcribing, the focus groups since background noise in even quiet, secluded locations can be an uninvited obstacle.

Recruiting Participants

Recruiting participants is a challenging task that needs to be dealt with on a case by case basis. All of the organizations that were part of this case study furnished me with a contact list of past and current students. The focus groups that included current students presented the fewest obstacles in regards to recruitment. In these cases, I first visited a class and the teacher gave me an opportunity to introduce myself, explain my purpose and my study, and ask for participants. I would ask each woman individually if she would like to participate in one of the focus groups. I had one sign-up sheet that corresponded to each scheduled focus group. I asked each woman when signing up to include her name, contact information, and signature. In Latin America, a signature formalizes the exchange.

I felt that if this sign-up sheet was viewed as a confirmed commitment that it may yield a higher percentage of attendees. I also created brightly-colored business card-sized reminders that listed the date, time, and location of the focus group. After each woman signed up, I personalized the reminder card and gave it to her. Most often, I was scheduling the focus group with no more than a week of lead time. I think that organizing them too soon may have prevented some people with prior commitments from signing up. On the other hand, if the focus group is scheduled too far in advance, participants are likely to forget and not show up. In all of the focus group locations, barring the rural area of Tlyacapan, I had over an 80% compliance rate. I aimed at recruiting twelve participants, hoping that the final head-count would be between eight and ten participants. The end results were very positive in the urban areas.

I struggled to recruit participants at the rural site of Tlyacapan. I discuss some of these reasons more extensively in my methodology section. To list out some of the reasons: 1) I was recruiting former students, many who currently had no connection to the organization; 2) because of their role within the family, it made it particularly difficult to leave their domestic responsibilities to attend a focus group; and 3) because the focus groups were located at a local restaurant which was not a location that was conducive to maintaining comfort for the perspective participants. After several failed attempts trying to visit the women personally and recruit them for a focus group alone, I hired a recruiter to assist me

in this process. I agreed to pay her for every individual who participated in the focus group. I felt that by paying her this “commission” she would have more invested in the number of women recruited. This recruiter was well known in the community and previously worked at the telecenter. For most cases, she knew the woman personally. After several failed attempts and only one focus group with five participants, we decided to change our approach. Rather than recruiting women to participate in a formal focus group from the outset, I organized a “party” at the telecenter for all the previous participants. It was my goal to get as many women together to give me an opportunity to introduce myself, discuss my project, and solicit volunteers. I hoped that this forum would be more like the other cases where I was able to visit the classrooms and explain my intentions in a non-threatening environment. Together with the recruiter, we handmade personalized invitations and distributed them. Unfortunately, not a single woman attended this information session. In the end, I only conducted the single focus group in Tlyacapan. However, although there were many obstacles in recruiting the participants, this single focus group proved to be very successful.

An additional technique that was utilized in recruiting participants in all the sites was to offer reimbursement for travel expenses to and from the research site. It was very important for me to offer to pay for these expenses so women did not have to use their personal funds to attend the focus group. I determined, based on the going rate of busses and taxis, an appropriate reimbursement at each location.

This amount ranged depending on location from approximately US\$1 to US\$4 per participant. At the end of the focus group, each woman had to initial that she received the reimbursement for my record-keeping. Many of the Costa Rican participants, many of whom were middle-class, did not accept the reimbursement, while in other sites all participants did.

Taping / Transcribing / Analyzing

There are many reasons why I advocate using a tape recorder. I certainly feel that any drawbacks, which mainly focus on a certain level of insecurity on the part of the participants, are certainly outweighed by the many benefits. First, since I acted as the moderator and did not have additional assistance to take notes, it would have been impossible for me to capture the full exchanges that occurred. Even field notes after the focus group only highlighted interesting areas and helped me hone in on the areas or topics brought up in the focus group that were interesting.

For every focus group I used two small tape recorders. This proved instrumental in the transcription process since it was difficult for one recorder alone to consistently capture all the respondents without any microphone

attachments, such as those used for teleconferences. It was also used to cross-reference any inaudible areas, making the final results of the transcripts very complete.

Since the focus groups were held in my non-native tongue, I hired transcribers. While transcribing itself can be a burdensome task, it is certainly exacerbated when the focus group is in a foreign language. The basic transcriptions were completed and then I had an opportunity to review them and add in any inflection or additional information that would help me later identify what was going on during the focus group.

In order to assist the transcriber and myself in identifying the respondent, I came up with an easy method of tracking responses. While moderating, I sat with a legal pad on my lap. I identified the start of each question by writing down Q1, Q2, etc. Below I listed the order in which participants responded. The end result was something like this:

Illustration 1: Example of a seating chart

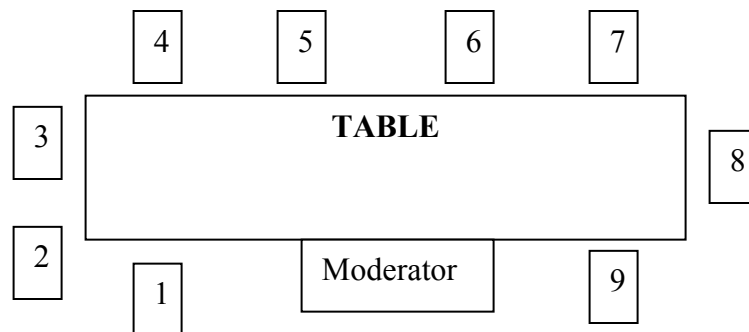


Illustration 2: Example of response notes

Q1	3	Q3
3	7	1
5	6	3
7	5	8
2	6	6
6	3	5
5	2	4
Q2	5	3
9	8	8
2	9	9

By tracking the responses of the participants, the transcriber did not have to focus on identifying the voices of respondents, but rather matching up the patterns of responses from my notes for each question.

Rather than translating the focus groups, they remained in their original Spanish language through the analysis, until I use a quote or exchange. At that point, that portion is translated. I, personally, do not see any reason to translate entire focus groups until you wish to utilize a passage in English, since this seems like a time-consuming and unnecessary task.

I utilized NVivo, a computer-based tool to analyze qualitative data, to code the text according to theme (Richards and Richards, 1994). This code and retrieve approach allowed me to design my analysis around a tree system of branches, or primary topics, and the sub-topics, or nodes. The tree structure was thematically organized around the focus group questions. Sometime dozens of nodes or series

of nodes and sub-nodes were used to categorize responses around a given subject. My analytical structure emerged from this data and enabled me to not only understand the depth of responses of an individual focus group or focus groups from a particular organization, but also to understand the interrelationships between respondents from different countries, regions, and organizations. I also relied on the NVivo classifications to analyze the occurrences of specific ideas or topics. For example, many of the women from working class urban areas indicated that the main reason they were attending classes was to “superarse,” or improve oneself. Utilizing NVivo in this capacity allowed me to understand the extensiveness and intensity of the opinion (Kruger, 1998).

The Initial Exchange

As participants arrived at the focus group location, I sat down with each one and quickly reviewed the Internal Review Board (IRB) Consent Forms. This gave them an opportunity to begin to review the extensive release. Once all participants arrived, or we had decided to begin, I introduced the nature of the forms, explained what confidentiality meant, fielded any questions, and then asked them to review and sign the forms. Only in one instance, for an individual

interview, did any of my respondents in the field decline to sign the consent form. While often viewed as an obstacle for researchers in the field, I personally did not feel that requiring consent affected or influenced the outcome of my focus groups or interviews.

I first introduced myself, explained the nature of my research, and my interest in talking with them. I also had each individual make a tent card with their name and introduce themselves to the group. While many of the women knew other participants, this was not always the case. This introduction, combined with non-threatening questions like those explained above, proved to be an important initial ice-breaker.

Moderating

I felt that it was important to moderate the focus groups myself. This enabled me to use my skills as a sociologist and goals as a researcher to maintain a certain level of control over the outcome of the focus group. As described above, being a strong moderator is important to achieve your research goals, but being too strong of a moderator can hinder additional insight into other issues. The best way to become a good moderator is to practice and, eventually, knowing your topic,

your participants, and your research goals will guide you on the path to being a successful moderator.

Compensation

Many researchers rely on compensation for focus group participants. For me this was a difficult issue. I felt very strongly that these women were giving of their time for my benefit, but at the same time felt uncomfortable paying them for their participation. In the end, I dealt with each location separately, given the differences between social and cultural norms at each site.

For each focus group I provided food and drink. Depending upon the time of day, this ranged from a full lunch to lighter snacks. When possible, I had these meals/snacks catered by a local woman. I also distributed small gifts, or tokens of gratitude, to the participants. With School For All participants, I gave them pounds of beans, rice, and coffee, important staples for these poor women. For Omar Dengo Foundation participants, I gave them vouchers for use at a local internet café. These gifts were seen as small gestures of gratitude, rather than direct compensation in the form of cash payouts.

Final Thoughts

One year and twenty-two focus groups later, I am still not an expert in how to successfully carry out focus groups. Since no two focus groups are alike, one cannot apply a cookie-cutter solution to all focus groups, all sites, or all research questions. I enjoyed the challenge of figuring out what worked, what didn't, and how I could change my approach for the next focus group. I did walk away from the experience with incredibly rich data that I do not believe could have been captured with individual interviews. That being said, as a researcher, I still believe that using multiple methods is best and the combination of focus groups and in-depth interviews provided me with a holistic set of data.

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