THE EFFECT OF AN EARLY CHILDHOOD CAREGIVER EDUCATION PROGRAM ON PRIMARY CAREGIVERS IN RURAL NICARAGUA

by

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ABSTRACT

The study examined the effects of an early childhood intervention training program directed to primary caregivers in a rural village in northern Nicaragua. Participatory action research employed a collaborative cycle of reflection, replanning, and taking action process involving key players from the target population in each step of the study and furthering social change during the process. The study resulted in change within the setting as well as within the researcher. The early childhood training program to primary caregivers increased the overall physical and psychological well-being and the quality of care for young children under 8 years of age. The change in primary caregiver practice included an increase in the making of potable water, using alternative methods for discipline other than physical punishment, an increase of fruit and vegetables in the daily diet of children and their families, and a decrease in children under 8 years of age being left unattended during the day. Additionally, the research process increased the knowledge and skills of the primary caregivers in the community of study, resulting in greater empowerment of the primary caregivers and increased voice and leadership within their community.
The finds argue for the inclusion of participatory action research as a core component of the process of community development.

This abstract accurately represents the content of the candidate’s thesis. I recommend it for publication.

Signed

Alan Davis
DEDICATION

This dissertation is dedicated to the children living in poverty throughout the world, with special appreciation to the children of Champaigny, Nicaragua, in hopes that this work can provide a small contribution to the reduction of the effects of poverty on families. The hope beheld in the eyes of children provide me the motivation so I can never give up and stop participating on the journey of creating a planet that moves towards peace and justice.

In addition, I would like to dedicate this work to my late best friend Jane Farb, whose friendship provided the opportunity for me to develop the skills necessary to address the difficult conversations of injustice and use my privilege to bring the voice of the marginalized forward.
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First and foremost I would like to give appreciation to my children who have walked hand-in-hand with me in the discovery of the complexities of poverty and early childhood. Next is my companion Doug Johnson who stands by me and who cares.

The commitment and feedback of my advisor, Dr. Alan Davis, and my committee members, Dr. Donna Wittmer, Dr. Rodney Muth, and Dr. Joel Edelstein, has been integral in the completion of this document.

I am indebted to the women of PIEAT for the opportunity to work side-by-side with each of the members whose willingness and commitment to stretch beyond familiar culture patterns and participate in guiding the transformation of an unknown culture that moves towards justice has been at the heart of this dissertation’s work.

I am grateful for the children, parents, families, and communities of Nicaragua that have opened their hearts and shared their stories throughout this process. Through their willingness to participate in the many projects of the PIEAT program, they have enabled the PIEAT program to bring more projects to the families of Nicaragua, thus creating a wonderful and positive feedback and growth system. My two most moving parts of the PIEAT program are the home visits and the story hours. Listening to the primary caregivers share their love and hopes for their children and
the children’s lives and hearing the children’s dreams strengthens the hope within myself that a more balanced and harmonious world is possible. Waking up, waling to the villages, and being welcomed by children running to hear and share stories has been one of the greatest gifts of the dissertation process. It is transformable to see the eyes and hearts of the children full of hope and possibilities. If anyone has ever doubted that transformation within the human race can be nurtured and developed, please take a moment and work with the youngest children and their primary caregivers. If people desire a more just world and are willing to redistribute resources more equitably, the possibility of transforming our world with the next generation can happen. The process of this dissertation is a contribution to dream.
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CHAPTER 1

INTRODUCTION

The word “caregiver” implies that someone is willing to take responsibility, especially when in the role of caring for young children, and then give care to another. But how do we teach someone to care in ways that will significantly improve a young child’s life?

The origins of this study were seeded in 1984 as United States planes soared over Nicaragua and bombs exploded on unsuspecting rural villages. I huddled under a table with my 3 year old and a local Nicaraguan father and his frightened 4 year old son, both adults feeling helpless. “Why are they doing this, Papa?” “I don’t know,” his father tearfully answered.

Helplessness can breed anger or compassion, and in this situation, compassion resulted in an intense desire to implement powerful and positive change, starting with my promise to myself to explore how I could best assist young children in learning and growing up safely with a foundation of support from their community.

Statement of Problem

In this study, I examined the effects community-based training programs for primary caregivers have on the physical and psychological well-being of children under 8 years of age (u8s). In this study, the program focused on primary caregivers
in early childhood care, development, and education (ECCDE). Early childhood care, development, and education is an overarching term for any kind of service that promotes health, growth, care, development and learning for children from 0-8 years. The caregivers of Chaimpaingy are considered key players in this study because of their role in the well-being of young children in their care.

For the purposes of this study, a primary caregiver is anyone who takes responsibility for the care of young children under 8 years of age and serves as their teacher and nurturer, whether a parent, older sibling, grandparent or other relative, neighbor, or friend of the family. Attitudes and common patterns of behavior of caregivers were observed in the daily life of primary caregivers in Chaimpaingy, and these were explored in an effort to better understand how these people affect the young lives in their care (Schweinhart et al., 2005).

Detailed accounts of caregivers’ behaviors and attitudes have implications for the competencies and affect needed for effective ECCDE training (Lombardi, 2003, Stringer, 1999). The early childhood training program is referred to in this study as an early childhood care, development, and education (ECCDE) training program. ECCDE training provides primary caregivers knowledge and skills to help equip young children with the necessary knowledge and skills for later schooling and lifelong learning. Providing developmentally and culturally appropriate, quality care, and education to all children from 0-8 years of age can increase the well-being of the children, the families, and therefore the community at large (Benne, 2007;
Bronfenbrenner, 1999; NICHD, 2000; Reynolds & Temple, 2006). The trainers work with primary caregivers in participant households, communities, and other organizations to promote the health and well-being of the children. The training is conducted in the vernacular of the local population.

Primary caregivers in rural Nicaragua must fulfill multiple roles. For example, an older sibling caring for a child under 8 might also be going to school and/or working in the market. Many interdependent, interacting components are part of a caregiver's life. Their behavior is seen as the interaction of individual motives, informal norms, and bureaucratic expectations as constrained by environmental forces (Hoy & Miskel, 1991).

Utilizing a systems organizational theory perspective (Hoy & Miskel, 2005), the PIEAT team examined the interdependent elements which form the primary caregiver's organized "whole" life. A systems organizational theory perspective suggests that any individual or organization uses a set of interrelated concepts, assumptions, and generalizations that can then be used to describe and explain patterns of behavior (Hoy & Miskel, 2005). This theory, along side theories of child development, has guided the research and practice within the process of the dissertation. Primary caregivers manage both internal and external factors that are likely to affect the well-being of children in their care. Internal factors include, but are not limited to hygiene, nutrition, literacy, the availability of potable water, and safety considerations for young children. External factors include, but are not limited
to the ability to acquire resources, allocation of resources, coalitions of support, community relations, advocating for children in their community, and community safety. An example of an external factor that impacts the internal and external lives of the primary caregivers in this study is one of the effects of living in poverty, the lack of access to services and information, and the daily insecurity or stability of internal and external factors.

This study explains the primary caregiver’s behavior by observing the forces within their sphere of influence as well as the dependency on the environment. The social system the primary caregiver lives in is comprised of interdependent parts, characteristics, and activities that contribute to and receive from the whole. When one part is affected, a ripple goes through the social system. This dissertation is studying the effects of impacting part of this system, the knowledge, attitudes, and practices of child rearing by primary caregivers.

Increasing the quality of physical and psychological well-being for children under eight involved a commitment to improving both internal and external factors in the children’s lives, and this research was an attempt to offer ECCDE training that taught caregivers how to manage both the internal and external factors.

**Significance of this Study**

In general, little specialized training in child development or other early childhood related information and skills exists for ECCDE educators (Barnett, 2004; Moss, 2000; Ramey, Ramey, Lanzi, & Cotton, 2002; Schumacher, Irish, & Lombardi,
In the United States, over 90% of infants and toddlers still receive inadequate care when supervised by someone else other than their parents (NICHD Early Child Care Research Network, 2000). Forty percent of infants and toddlers in daycare receive care that is dangerous for them (NICHD Early Child Care Research Network). Current research strongly suggests that ECCDE training for primary caregivers significantly improves the quality of care for young children, often resulting in more optimistic outcomes for these children and their families (Belsky, 2006; Campbell & Ramey, 1994; Herzenberg, Price, & Bradley, 2005; Ramey et al., 2002). Most of this research, however, has been gathered in those countries with resources available to help supply the needs of their young children (Grantham-McGregor et al., 2007).

Research is limited on the physical and psychological well-being of young children on the impact of ECCDE training to primary caregivers in rural areas of impoverished nations (Armecin et al., 2006; Helburn, 1995; Anne E. Casey Foundation, 2006). Evidence-based research from rural areas in impoverished nations is noticeably rare, and often policy makers and community leaders are unaware of what research exists, resulting in precious little public financial investment in support of ECCDE programs (Grantham-McGregor et al., 2007). When public investment has been available, rural areas of impoverished nations are usually the last to receive any support for establishing and running ECCDE programs, thus contributing to the difficulty of building a body of research that illustrates how
ECCDE training programs influence rural community development (Meyers, 1995). Although research is growing in the areas of the valuable leadership characteristics and expertise necessary for people in the role of primary care-giving, additional research and literature could be invaluable for informing decision makers how to best support ECCDE programs worldwide, especially for the areas or countries with less resources.

Throughout the last 20 years, researchers have collected a significant amount of evidence on the impact ECCDE programs have on child development, school achievement, community culture, and a community’s ability to make decisions that positively impact children’s lives (Barnett, 2002; Burchinal, Campbell, Bryant, Wasik, & Ramey, 1997; Ewen & Matthews, 2007; Meyers, 1995; Pungello, Campbell, & Barnett, 2006; Shonkoff & Phillips, 2000; Weiss, Caspe, & Lopez, 2006). Scientific evidence has strengthened the position that children in the early years, birth to age 5, undergo tremendous intellectual, emotional, and physical development resulting in long-term effects for both the individual and society (Barnett, 2002; Brazelton & Greenspan, 2001; Shonkoff & Phillips). Neurons to Neighborhoods (Shonkoff & Phillips), an in-depth analysis of the current research in the ECCDE field illustrated how nature and nurture interact to impact a young child’s development.

It is necessary to consider a variety of environmental variables that can potentially impact a child’s development. Some of these variable are being born into
a working family, the level of education of a child’s caregiver, growing up in a family that is living in poverty, being in a single parent family, the effect politics can have on programs for children, and lastly, how the costs of intervention in a child’s early years can reap benefits (Barnett, 2002; Grantham-McGregor, et al., 2007; Pungello et al., 2006; Shonkoff, Meisels, & Shonkoff, 2007). Consideration of these environmental variables is critical as they develop into divisive issues that impact potential investment in ECCDE programs (Barnett, 2002; Rolnick & Grunewald, 2003).

There are many important reasons for supporting ECCDE training and programs. Brain development research, economic investment, school readiness, school success, better health care for children and families, and social impacts including stronger work force and reduced crime are supporting rationale for ECCDE programs. Research on the importance of “brain wiring” and how children learn to speak, think, and regulate their behavior is relevant for this study (Barnett, 2002; Posner, & Rothbart, 2005; Shonkoff & Phillips, 2000; Shore, 1997). In the next chapter, brain development and how learned skills such as language and self regulation are correlated to family climate and conditions, childcare quality, and opportunities within the child’s community are explored and correlated to the quality of care for u8s.

Economically, ECCDE programs provide an opportunity for mothers to enter the work force, thus increasing the productivity of the community and the country (Bub, & McCartney, 2004; Dickens, Sawhill, & Ebbs, 2006; Meyers, 1995; Reynolds
& Temple, 2006; Rolnick & Grunewald, 2007a). In addition, health-care costs decrease as mothers are better able to economically provide for their families and their children have greater access to health prevention and intervention activities (Meyers). ECCDE programs increase the preparedness of children for school. Preparedness of children results in more effective teaching, increased learning, and a decrease in repetitions of grade levels and dropout rates, thus reducing the costs for remedial programs (Boocock, 1995; Ewen & Matthews, 2007; Meyers). Investments in preschool and ECCDE programs are now being included in economic development policies (Heckman, 2000, 2006; Reynolds & Temple).

Public schools and governments worldwide have recognized the importance of ECCDE programs and have recommended the establishment of formal and informal ECCDE opportunities for children ages 6 months through 8 years of age (Armecin et al., 2006; Kamerman, 2001). The United States National Association of State Boards of Education has also recommended that public schools develop partnerships with other agencies to create a comprehensive system of ECCDE services (Haynes & Levin, 2009). Nicaragua has declared its intention to expand ECCDE services for the children of Nicaragua in their document Estrategia de Educación Inicial 2004-2014.

Kagan (1994) provided support for attention to ECCDE education. If we invest in children today, he proposed, they will be stronger workers in the future. Global businesses concerned about global competitiveness and the adequacy of future
workers have begun to invest in ECCDE programs. Today, the competitive markets rely heavily on human capital (Heckman, 2006, 2007). This takes the form of labor skills, knowledge, and physiological endowments. The capacity of human resources rely on the quality of prenatal care, nutritional adequacy during pregnancy, nutritional adequacy for young children 0-3 years of age, and the physiological and spiritual nurturing of children during the early childhood years. The growing awareness of the value of ECCDE programs by policy makers cannot be denied. Because children are looked at as the human capital for the future, ECCDE is becoming more recognized as a valued element in sustainable development. It has been shown that economic and social benefits of ECCDE to the individual, family, and society far exceed the costs (Heckman, 2007; Ramey, n.d.; Meyers, 1995; World Bank, 2008; Young, 1976). Therefore, primary caregivers’ understanding how children thrive is an important investment around the world.

The United Nations General Assembly ratified the Declaration of the UN Convention of the Rights of a Child (CRC) in 1989. Article six of the document states the signatories are to work “to ensure to the maximum extent possible child survival and development” (UNICEF, 1989, ¶ 20). The document, with all the signatories, shows that the right of every child to have a healthy development is clearly supported throughout the world. The statements in these documents assist in providing a very compelling argument for the right of children to develop to their fullest potential and in support for ECCDE programs.
Context of Problem

Poverty and Nicaragua

According to Al-Azar and Desantis (2007), the population of Nicaragua is 5,142,098, 55.9% of the population is urban and 44.1% is rural. Almost half of the population lives in poverty, 79.9% of whom live on less than $2.00 a day, with 45% living on less than $1.00 a day. Of those members of the population living in poverty, 1.7 million live in rural areas of the country. The incidence of poverty is highest among rural populations, where 68% live in poverty and 27% live in extreme poverty. Fifty three percent of the population is less than 18 years of age. The breakdown of the distribution of income indicates that the richest 10% of the population receive 45% of the income, whereas the poorest people only receive 14%. Nicaragua, among the poorest countries in South and Central America alongside Haiti, Bolivia, and Honduras has a Gross National Income per capita of $453 per person (Al-Azar & Desantis). Recurring natural disasters, such as earthquakes, floods, and drought, have also destroyed the country's economic base and caused great human loss. The average income of the poor covers only 24% of the cost of the basic food basket (Al-Azar & Desantis). Nicaragua has widespread underemployment, one of the highest degrees of income inequality in the world, and the third lowest per capita income in the Western Hemisphere (CIA, 2008).
Early Childhood Education in Nicaragua

The Nicaraguan government has declared that “education is regarded as essential to ensuring the economic well-being of families and reducing social inequalities, prompting various bodies to support the establishment of basic objectives regarding access to minimum levels of education” (Porta & Laguna, 2007, p. 3).

In November 2003, Nicaragua was selected together with five other low-income countries to form part of the Education for All Fast Track Initiative. The country received U.S. $7 million dollars annually in the 2004-2005 period and U.S. $10 million dollars annually in 2006 and 2007, for the purpose achieving the Millennium Development Goals more quickly. Despite the increase in the financial support of early childhood care and education in Nicaragua, the indicators of retention and progress have deteriorated (MECD, 2006a). Further, it should be noted that Nicaragua stands out in Central America as the country that has progressed least in the past decade in the matter of increasing the average enrollment in public and private school (Porta & Laguna, 2007).

The population with the largest gap in access and availability live in rural areas, particularly the people living in the lowest socio-economic sector. Nueva Segovia, a rural area in the north and where the study takes place, is identified as one of the departments with the lowest early childhood and primary year access to educational opportunities. Rural children are less likely than urban children to attend
school and educational programs and more likely to drop out from school (UNICEF, 2009). In regards to retention, evidence shows a significant gender gap between males and females, with a disadvantage for males, as more of them enter the work force during the secondary school years. In addition, a slight difference exists in the literacy rates between males and females, with females having higher rates than males (Porta & Laguna, 2007). The largest gap in literacy rate is according to area of residence, and shows that illiteracy continues to be eminently rural with 33.6% versus 11.1% in towns and cities (MECD, 2006a).

The quality of schools is low due to poor performance of teachers and the conditions of the schools. According to MECD (2006b) statistics, the proportion of uncertified primary and secondary teachers has continued to rise, from 15.7% in 1997 to 33.7% in 2004. In 2004, 94% of teachers working in the rural preschool or primary programs were people without formal qualifications. The teachers in the early childhood programs, along with many primary school programs, consist of voluntary women educators with a minimum academic level of fourth grade primary. The mothers, students, or teachers who fill this role are typically selected by the community (Porta & Laguna, 2007). In the rural areas, about 75% of the schools have minimally acceptable conditions for teaching, with only 37% of the country’s schools having drinking water and only 30% with electricity (MECD, 2006b).

The global adult literacy rate is 84% (UNICEF, 2009), Nicaragua at 67% (Central Intelligence Agency [CIA], 2008) is well below this and Champaigny at 40%
(initial intake for study) is even lower. Adult literacy is essential for living in today’s world and key that opens the way to better child well-being (Lankshear & McLaren, 1993; Walsh, 1991). The UNICEF 2009 report confirms that trained teachers are in short supply and there is a shortage of teacher training programs. Nicaragua shows a high disparity between children of high and low income families in respect to access education and much more in urban areas than rural areas (UNICEF, 2009, p. 24).

Schooling is supposed to be free to all in Nicaragua; however, costs such as school supplies, and school uniforms and transport among others significantly restrict the possibility for the children of the poor to attend school. As a basis for the 2005 school year, the average annual cost of primary education was at 806.59 cordobas, which is equivalent to 22% of the income of the typical family living in poverty. In addition, it is important to note that because child labor is a reality in Nicaragua, an “opportunity cost” must be considered since going to school replaces going to work (MECD, 2006a).

Nicaragua has recognized that children attending an early childhood education center are much more likely to improve their cognitive capacities and to remain in school longer, as compared to those not attending (Young, 1996). The official MECD (2006b) statistics show an increase in coverage of early childhood care and education, from a net enrolment ratio of 31.4% in 2000 to 41.8% in 2005. Apparently this increase is due to the significant expansion of the community preschool education centers, predominately located in rural areas affected by extreme poverty, that serve
over half the total intake of early childhood students (Porta & Laguna, 2007).

However, more resistance to sending children at an early age still exists in rural areas, where two thirds of the total population is located. Presently, only a third of 6 year olds attend school.

The government continues to work on improving community participation in early childhood and primary school programs. Community preschool education centers represent an educational approach that closely involves the family and the community, extending the child’s educational environment and hoping to support the community as the principal educational driving force. Additionally, MECD has implemented an Integral School Feeding Programme (PINE), which increased the coverage of 230,000 children served in 2002 to 787,456 in 2006, representing an increase of 340% (MECD, 2006b). Further also, MECD has recommended that awareness-raising campaigns about the value and importance of early childhood education for parents be increased, and that programs to bring down the direct costs paid by individual households to send their children to school be expanded (Porta & Laguna, 2007).

Different definitions have different implications for policy as different people are considered as being poor within each definition. Consequently, an awareness of the various factors contributing to the definition of poverty is essential in developing policy and strategies that will be effective and sustainable (Chen & Ravallion, 2004).

Through recent studies (Franco, Harriss-White, Siath, & Stewart, 2002; Krishna et al.,
looking at how to obtain long-term sustainable poverty reduction, the people living in poverty must be able to participate in the decision making and use more of their own capabilities and assets to resolve the situation. This is especially true where people living in poverty make up the large majority of the overall population. Changing the pattern of growth can be difficult but can be achieved by addressing inequalities in the areas of access to education, health, information, transport and financial income availability and pay. A key approach is to use a methodology that works through a ground-up process with communities to not only identify their needs, but to ensure those needs are met by community-driven solutions (Fals-Borda & Anisur Rahman, 1991; Israel, Parker, Rowe, et al., 2005; Maginn, 2007; Smith, Willms, & Johnson, 1997).

Underlying causes of poverty include lack of opportunity and lack of information, with both remaining at the front of development problems (Aysan, 1993; United Nations Development Programme [UNDP], 2004). Access to information and education are vital resources required to reduce the effects of poverty and build a foundation for long-term changes. Recent studies illustrate the need for the empowerment of poor people to participate in these processes and the development of broad political alliances to ensure the sustainability of poverty reduction initiatives (Department for International Development [DFID], 2000; Franco et al., 2002; McGee, 2004; Narayan, Patel, Schafft, Rademacher, & Koch-Schulte, 2000). In this way, those living in poverty can claim their rights and influence more of the factors
that affect their lives. Sen's (1998) vision of poverty as capability deprivation has pointed out people with similar income or expenditure levels may have vastly different standards of living. Quality of life ultimately depends on complex and intangible variables such as levels of education, access to resources, political freedom, expectations and levels of self-confidence (UNDP, 1998).

Some of the contributing factors to the overall poverty include fertility rates, water and sanitation, instability of employment, low levels of education, malnutrition, number of children under 5, and lack of access to potable water and electricity. I used the United Nations Committee on Economic, Social and Cultural Rights, statement on poverty as a working definition of poverty. The statement defines poverty as “a human condition characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights” (United Nations, 2001).

Studies suggest that knowledge in child development increase the quality of care for children (Kreisman, 2003; Huffman & Speer, 2000). The ECCDE training program offered was created from a result of local needs assessments and goals for families and children developed by the local population and PIEAT. The training provided critical, engaging, and readily usable information and education to underserved primary caregivers. Information is portable, relatively inexpensive, and yet one of the most powerful tools known. However, in many parts of the world,
information is a scarce and inaccessible resource. By providing critical information and education to remote and underserved primary caregivers, the training program helped people help themselves. The study integrated communications with on-the-ground development initiatives maximizing impact through capacity building, listening/discussion groups, facilitated learning, interactive feedback, and evaluation focused on children development. The assessment results addressed inequities in the area of access to information mainly around education, child development, and health. The program’s goals and measurements align with many of the nationally led development programs and goals (Estrategia Nacional de Educación Inicial 2004-2014, 2003).

Basic water and sanitation infrastructure has progressed very little, with less than half of the homes in rural areas having access to safe basic services. Although malnutrition has decreased, one in five still remain chronically malnourished and diarrhea and upper respiratory infections for children under five show little progress since the early 1990s. The rate of chronic malnutrition is 50% higher than that at the urban level; the extremely poor families are almost twice as malnourished as the national average. The report suggested that strategies for “broad-based growth and poverty reduction should include programs for macroeconomic stability, key interventions in education, increased access to productive and basic infrastructure, increased access to reproductive and prenatal healthcare services for women with maternal, and child care becoming a priority” (World Bank, 2003). Maternal
mortality is associated with three high impact interventions. These are access to family planning education and services, early prenatal care, and birth attended by trained personnel. The quality of physical well-being of children under 8 is closely associated with prenatal care, births attended by qualified personnel, access to potable water, access to family planning, and breast feeding practices (Posada et al., 1999; Sharif, 2005; Wright, Parkinson, & Drewett, 2006).

Diarrhea is associated not only with lack of access to potable water but also with behavioral factors within the household such as food preparation practices and general hygiene practices. Child health and nutrition affects cognitive achievement and subsequent schooling decisions (Behrman, 1996; Politt, Gorman, Engle, Rivera, & Martorell, 1995). Upper respiratory infection for children under 8 years of is a matter of concern. The use of firewood for cooking has only improved slightly in the rural areas. The electrification of rural areas has showed essentially no progress or the last 10 years. In the poorest rural areas, 1 in 5 had no access to electricity. On average in rural areas less than half of the population has access to electricity.

Instability of employment, low levels of education, and large family size are indicators of the poorest population in rural Nicaragua. Although it seems that overall poverty in Nicaragua is being reduced there are still areas that are not meeting their goals. These areas include a lack of access to potable drinking water and reduction of illiteracy. Education is critically linked to poverty reduction (Novak, 1996). Key interventions are necessary for the attendance and retention of children in
school. Additionally, basic infrastructure to access sanitation and potable water is necessary for the increase of basic health and hygiene.

Children who come from families that are better off, that is, with higher household incomes, higher mother level of education and literacy, access to piped water, home ownership, a lower number of siblings, and shorter distance to school, are five times more likely to attend school than a child that comes from the lowest quintile. Many of the programs offered by the government tend to focus on mitigation and recovery efforts rather than preparedness. “Family cultural practices, especially among the poorest, tend to include few preventive measures and may even encourage practices that increase their exposure” (World Bank, 2003, p. 50). For example, nearly 800,000 children age 0 to 6 do not receive any early childhood development. Also, more than 100,000 children 0 to 6 suffer frequent illness and 170,000 suffer chronic malnutrition. Further, 300,000 women and children are victims of domestic violence and the national average is one in three women report in having been physically abused (World Bank, 2003).

Community of Study

Champaigny is situated in the north central area of Nicaragua about 7 miles from the Honduran border. There are about 500 households that currently live in Champaigny. The median income of the households is less than $2 a day. Before PIEAT entered the community, primary caregivers had not had access to information on child development, leadership, ECE skills or knowledge. Majority of the homes
were built with adobe bricks, cement, wood framed windows and doors and the materials donated by the Organization of American States during 2002-2005. Each house has two bedrooms and one living room to each house. The backyard lots are quite small and the latrines are about 10 feet from the neighbor's latrine. Many of the homes have barbed wire fences to delineate their property. Each household was required to help in the construction of their own home as well as the homes for others in the community. The people of the community worked together to build the homes and only those who worked would receive a home at the end of the project. People worked for close to 2 years. After the 2 year work period, people working on the project were given the title to their home. Currently, a home sells for about $2,500, depending on the condition of the home.

*Setting the Stage for Intervention*

Through close work over an extended period of time with a diversity of caregivers in the Nicaraguan village of Champaigny, this study hoped to illustrate how an ECCDE training program for primary caregivers raised the level of participation in community development efforts, particularly those efforts that help spread awareness of greater social justice and of ways to reduce the effects of poverty.

With a growing awareness of the importance of early childhood care and development and the relevance of ECCDE programs, leaders from around the world created the following governmental documents and policies adding ECCDE programs
as a priority: the United Nations Conventions of the Rights of a Child (UNICEF, 1989); the Framework for Action to Meet Basic Learning Needs, created by The World Conference on Education for All (United Nations Educational, Scientific and Cultural Organization [UNESCO], 1990); and the World Declaration on the Survival, Protection, and Development of Children (UNICEF, 1990) created during the World Summit for Children. The problem now is to assist countries that do not have effective ECCDE programs in overcoming the challenges that hinder the implementation and the sustainability of these necessary programs (Dakar Framework, 2000).

Nicaragua is an excellent example of how countries use this kind of worldwide decision-making to set local initiatives in motion. In 2003, the offices of the Ministry of Education, Culture and Sports, the Ministry of the Family, and the Ministry of Health worked together to write the Estrategia Nacional de Educación Inicial (ENEI) 2004-2014 policy document. ENEI outlined the call for innovations that address the needs of the country’s children and families. The focus of the ENEI is to increase the quality of care and development for young children and pregnant women. The goal is to initiate a political process that amplifies and strengthens the reflection, discussion, and commitment to make the Convention of the Rights of a Child (CRC) a reality for all Nicaraguan children. The Inter-Institutional Commission of Education was organized by sponsoring organizations of ENEI in
order to collect information on the conditions of young children and families from around the country.

Through this initial study and assessment, it became clear that outreach and intervention in a child’s youngest years are essential to improve the health of Nicaragua’s children, thus improving the future of Nicaragua. The assessment outlines several high-need areas:

1. To increase the number of ECCDE programs

2. To improve health services and provide knowledge about sanitation and potable water (35% of the rural population does not have access to potable water and 50% does not have access to adequate sanitation)

3. To increase methods for reducing poverty (45% of population live below $1 a day)

4. To enroll more children in primary schools (enrollment is currently at 77%)

5. To implement procedures for birth registration and expand services available to pregnant women; and eliminate malnutrition and the abuse of children’s rights.

The high need areas can be addressed utilizing the intervention of the PIEAT training program for primary caregivers providing information and skills on child development. The training program which includes follow-up home visits and
workshops directly impacts the quality of care the young children receive and therefore, the well-being of young children and their families.

**Conceptual Framework**

The study is guided mainly by the belief that outside intervention will not have lasting results unless it is taken up by local leaders and becomes part of sustained local practice. Additionally, effective interventions cannot be fully planned in advance, therefore participatory action research is ideal as the study's design, implementation, analysis, and summary responds to local realities articulated by the target population and incorporates local actors early in the design and planning processes.

The process of cultural sensitivity is crucial for the success of a participatory action research study as well as working with families with different daily patterns of behavior and child rearing practices. My practice of cultural sensitivity was supported by viewing culture as a system that defines the way people behave and share (Barrera & Corso, 2003, Rogoff, 2003). Culture emerges when members of a particular community negotiate values, meanings, and proprieties and extends across generations (Rogoff, 1995). People develop as they participate in and contribute to the cultural activities that themselves develop. Development is a process that is characterized by participation in sociocultural activities within the community (Rogoff, 1990, 1998). People develop through their shared use of information, tools, and practices and contribute to the transformation of information, tools, and practices.
Using a cultural dynamic systems approach as a foundation for transformation represents the use of core philosophical beliefs and competencies that are identified and used through sustained and consistent practice (Stevens, 2003). Creative collaboration is essential in the development process and is accomplished by organizing intelligence in groups passionately engaged in discovery (Bennis & Biederman, 1997). Using a participatory action research approach, the participants become the group engaged in the discovery and research process (de Souza, 1988; Fals-Borda & Anisur Rahman, 1991; Ochoa & Ochoa, 2004; de Souza, 1988; Smith et al., 1997).

It is important to understand the processes or system of culture if people are to work side by side guiding change. According to Senge, Kleiner, Roberts, and Smith (1994), “a systems thinker . . . is someone who can see four levels operating simultaneously: events, patterns of behavior, systems and mental models” (p. 97). Systems thinking is a mode of thinking that is contrary to more traditional forms of research based on prediction and control. My experience working in impoverished nations has shown that reductionism, the breaking down of constituent parts and then studying the individual elements in terms of cause and effect relationships, usually have very limited success. Within this framework at first, things seem to be changing, but gradually the novelty and impetus wears off and the organization often settles back into familiarity. An important aspect is for the researcher to understand how reductionism has fragmented the world and how the researchers thoughts shape
the awareness and perception of the life in which they participate (McTaggart, 1991, 1997; Reason & Bradbury, 2001). A whole systems view can help move people out of alienation and help recognize a quality that modern living is lacking (Reason, 1994).

Johnson (1992) has developed a model of culture which situates the attitude of people at the center of the model with six concentric circles around it. The concentric circles represent stories and myths, symbols, power structures, organization structures, control systems, and rituals and routines. The attitude is the paradigm or vision of reality. Kuhn (1962) proposed that a paradigm is a constellation of concepts, values, perceptions, and practices shared by a community; this paradigm forms a particular vision of reality, called attitude, and this shapes the way a person or community organizes itself. Johnson’s model maintained that without a shift in attitude, no lasting change will occur.

Most research and development programs work towards change by changing the outside circles using rearrangement or adjustment strategies. A systems model of change uses emergence as a change agent. Emergence is a key attribute of complex systems, and culture itself is a complex system. Mihata (1997) stated, “Emergence is the process by which patterns or global-level structures arise from interactive local-level processes. This ‘structure’ or ‘pattern’ cannot be understood or predicted from the behavior or properties of the component units alone” (p. 31). Complexity theory suggests that when there is enough connectivity between the agents, emergence is
likely to occur spontaneously. If this is true, programs need to move away from trying to change organizations and instead work toward creating a new way of viewing things or a new paradigm of understanding situations.

Participatory action research (PAR) uses systems thinking as a foundation that broadens and deepens the research. PAR warrants an emergent approach in creating a foundation for lasting change. PAR is a way to build relationships and share power in a creative process of collaborative research (Fals-Borda, 1986; Fals-Borda & Anisur Rahman, 1991; Reason, 1994). The participants are able to gain first-hand experience with the challenges of inequity and social transformation. The goal of resolving community needs combines with that of “conscientization” (Freire, 1970) and the empowerment of the participants in the research. Greenwood and Levin (1998) summarized the PAR process as the moment when “the professional researcher and the stakeholders define the problems to be examined, co-generate relevant knowledge about them, learn and execute social research techniques, take actions, and interpret the results” (p. 4). Chapter 3 of the dissertation is devoted to the rationale behind using PAR.
CHAPTER 2

LITERATURE REVIEW

The first years of life have a significant impact on the development of a child and the future adult the child will become (Shonkoff, 2007). This chapter is devoted to a literature review on the impact of nutrition, brain development, cognitive stimulation, motor development, language development and culture, emotional development and attachment, and socio-cultural support and constraints on the development of young children and their families. The literature shows maltreatment and poverty are positively correlated and therefore maltreatment has become a component within the design of the training program. A brief history of the development of the early childhood field is explored. Next, the case of Nicaragua is outlined and a case for the need of an early childhood training program to include primary caregivers and families is made. The early years of child growth and development impact not only the child, but also the child’s family and community. Lastly, home visits are examined as they are the fundamental strategy for the implementation of the training program.

Over the last 20 years, early childhood care, development, and educational programs have collected a significant amount of evidence to support increased investment. In addition, current research strongly suggests that the first 3 years of
development in a child’s life are crucial and that these first years set the patterns of behavior for adulthood. What happens to children during the prenatal period and through early childhood shapes the child’s brain development, ability to learn and to problem solve, physical development, emotional development, and the child’s ability to successfully participate in their community (Brazelton & Greenspan, 2001; Shonkoff & Phillips, 2000; Shore, 1997). Cognitive development is heavily influenced during the early childhood years (Brazelton & Greenspan; Burchinal et al., 1997; Shonkoff & Phillips, 2000). Vygotsky’s (1978) and Rogoff’s (2003) research showed how social and cultural influences strongly impact biological influences in a child’s life. Vygotsky’s main concern was that of social interaction and social context. A world full of other people, who interact with the child from birth onwards, is essential in the cognitive development of the child. He stated that

Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

Rogoff (2003) examined how regularities in community practices impact child development and therefore impacting community routines and regularities can impact child development. She stated that “people develop as participants in cultural communities and their development can be understood only in light of the cultural practices and circumstance of their communities—which also change” (pp. 3-4).
Rogoff’s study affirmed that primary caregivers care to young children greatly impact children’s learning and development.

*Nutrition, Health, and Hygiene Concerns*

Many factors contribute to the relationship between poverty and childhood including parent education and family income (Currie & Lin, 2007; Moody-Ayers, 2007). Low educated parents and impoverished living conditions, for example, can result in poor health, lack of safety, lack of education for the children, and poor nutrition (Johnston, Low, de Baessa, & MacVean, 1987; Newacheck, Jameson, & Halfon, 1994). Nutrition and health problems additionally are reflected in lower levels of iron and protein, higher levels of dental and respiratory problems, and increased incidents of chronic diarrhea. Children living in poverty also have more frequent and serious infectious diseases (Kotch & Shackelford, 1989). These factors impact development, many times resulting in slowed or impaired development.

Evidence suggests there is an alternative route to address the nutritional and hygiene concerns of poor families. The attachment between a parent and child ensures parents act as a child’s greatest advocate (Boone & Zhan, 2006). If the parent can be helped by providing better health knowledge and general education, the powerful parent advocacy can be used to tackle the causes of children’s poor health and hygiene (Boone & Zhan; Carneiro, Meghir, & Parey, 2007; Moody-Ayers, 2007). This alternative route to low nutrition, health and hygiene characterizes the impetus for
parent training, and it could prove a highly effective and sustainable path for other impoverished nations and communities.

Impoverished conditions affect food consumption. Basic food nutrition needs many times are often not met. There is less chance of having adequate fruits and vegetables as well as protein and iron. This inadequate nutrition can affect cognitive, motor, and behavioral development (Kotch & Shackelford, 1989; Pollitt, 1994). Malnutrition is a general term that indicates a lack of some or all nutritional elements necessary for human health. There are two basic types of malnutrition, protein-energy malnutrition, or the lack of enough protein; and a micronutrient, a vitamin and mineral deficiency. Undernutrition is a consequence of consuming too few essential nutrients or using or excreting them more rapidly than they can be replaced. Both malnutrition and undernutrition play roles in slow or impaired development in children. Inadequate nutrition plays a role in at least half of the 10.9 million child deaths each year (World Bank, 2008). The estimated proportions of deaths in which undernutrition is an underlying cause are roughly similar for diarrhea (61%), malaria (57%), pneumonia (52%), and measles (45%; Black, Morris, & Bryce, 2003; Bryce, Boschi-Pinto, Shibuya, Black, & the WHO Child Health Epidemiology Reference Group 2005). In many cases, children’s malnutrition began before birth with a malnourished mother. Under-nutrition among pregnant women in developing countries leads to 1 out of 6 infants born with low birth weight (World Bank, 2008). According to de Onis, Frongillo, and Blossner (2000), 32.5% of children in
developing countries are affected by malnutrition. Cognitive and brain development are affected by nutrition and young children can be adversely affected if malnourished conditions are sustained (Johnston et al., 1987; Pollitt et al., 1995). Studies suggest that the affects can be reversed if attended to in a timely manner (Brown & Pollitt, 1996; Chávez, Martinez, & Soberanes, 1995).

Over the years, much has been learned about the relationship between poverty, nutrition, and child development (Boone & Zhan, 2006; Brooks-Gunn & Duncan, 1997; Lee & Burkam, 2002). Knowledge on how the negative impacts of compromised health and nutrition reduces human development and increase social inequalities is clearly documented (Boone & Zhan; Walker et al., 2007). The treatment of malnourished children all over the world is imperative; however, the key to solving the problem is to focus on prevention rather than cure. Preventive actions should be interdisciplinary and include parental education (Boone & Zhan; Ceci, 1991; LeVine et al., 1994; LeVine & LeVine, 1988), adequate and appropriate attention or affection from primary caregivers (Bowman, Donovan, & Burns, 2001; Engle & Ricciuti, 1995; Heckman, 2007), and other environmental factors such as parental presence in the home (Engle & Lhotska, 1999; Shonkoff & Phillips, 2000). These actions should encompass a broad focus on education (Bowman et al., 2001; Shonkoff & Phillips; Smith, 1998) and be directed to women and other primary caregivers; they should include actions to improve sanitary conditions, schooling opportunities, employment, agricultural produce, and access to diverse food sources,
particularly those rich in micronutrients (Boone & Zhan; Currie, & Moretti, 2003; Koppelman, 2003).

More than 2.6 billion people still lack access to proper sanitation, and 1.1 billion people have no regular access to clean water (Human Development Report, 2006). As a result, 1.8 million children die from diarrhea each year, making the disease the second-largest cause of global child mortality (Human Development Report). Nutrient loss is also accelerated by diarrhea caused by lack of sanitation (Berkman, Lescano, Gilman, Lopez, & Black, 2002). Kevin Watkins, head of United Nations Development Program's Human Development Report Office and the report's principal author reported that the crisis in water and sanitation is a crisis for the poor, and mostly in the developing world. The report went on to say that access to basic sanitation is a crucial human-development goal and the lack of basic sanitation undermines progress in education, child development, as well as fostering poverty. The report also suggested that empowering women may be the most effective way to increase demand for sanitation, as the women are the providers for children and health and hygiene for the entire family.

**Brain Development**

Brain development is a lifelong process which is fundamental to physical, cognitive, and emotional development. The brain grows most rapidly during the months before and immediately after birth and on into the first three years of life, (Black, 1998; Katulak, 1997; Shore, 1997). As neurons travel to their delegated
locations they form synaptic connections and undergo integration and differentiation. Especially during the early years the brain has a period of rapid growth in which environmental experience can influence brain development positively or negatively (Le Doux, 2002; Shonkoff & Phillips, 2000; Shore, 1997). Recently brain imagining tools have shown a clearer picture of how the brain grows and is supported the critical periods of early childhood as it pertains to brain grown and development (Chugani, 1997; Shonkoff & Phillips; Toga, Thompson, & Sowell, 2006).

The brain reaches close to 90% of adult weight by the age of 3 (Shore, 1997). The brain is genetically directed however, the brain is not a static entity and an individual is not fixed from birth (Shore, 1997). Brain development can be modified by environmental experiences (Shonkoff & Phillips, 2000; Shore, 1996; Shore, 1997; Toga et al., 2006). This modification is known as plasticity (Huttenlocher, 2002). Early experiences can have lasting effects on the capacity of the nervous system, the brain, to learn and stored information (Society of Neuroscience, 2005). Some of the differences between people result from the connections the brain has developed in response to experience. Consequently, during the formative period the brain is especially vulnerable. Early childhood can be a time offering many ample opportunities to promote and support healthy brain development and growth (Kotulak, 1997; Shonkoff & Phillips; Shore, 1997).

Exposure to the effects of poverty, long term malnutrition, environmental toxins, or maternal stress can threaten the development brain and interfere with
cognitive and emotional growth (Aber, Bennett, Conley, & Li, 1997; Glaser, 2000; Kotulak, 1997; Rose, 1994; S. L. Thompson, 2001). Abuse, neglect, and sensory deprivation can also impact brain development and growth (Fries, Zielger, Kurian, Jacoris, & Pollak, 2005). Early experiences of trauma or ongoing abuse, whether in utero or after birth, can interfere with the development of the brain and can result in harmful levels of anxiety or depression, and the inability to form healthy attachments to others (Barker, 1998). “Research shows that many of these risk factors are associated with or exacerbated by poverty,” (Shore, 1997, p. 47).

Equally important enriched experience can support and stimulate brain development (Society of Neuroscience, 2005). Biologically speaking, young children, particularly infants and toddlers, are primed for learning (Chugani, 1997). Studies have shown that in some cases depending on the age of the child when the enrichment is offered, this enrichment can support the resiliency of the brain and make up for past deprivation (Ames, 1997; Beckett et al., 2006; Black, 1998; Bowman et al., 2001; Pungello et al., 2006). Shore (1996) concluded that our brain is ecologically dependent throughout life on environmental inputs. This has far reaching implications for the understanding of the impact cultural and experience has on the developing brain and for the development of intentional interventions for young children (Bronfenbrenner, 1979; Shore, 1996).
In the past 20 years studies have demonstrated that intensive early childhood educational intervention can have lasting positive effects for young children (Burchinal et al., 1997; Honig, 1977; Schultz, Lopez, & Hochberg, 1996). Additionally, the results have showed the significant value of early learning (Barnett, 1996; Wasik, Ramey, Bryant, & Sparling, 1990). Studies have assessed the effect of early childhood intervention using cognitive stimulation on young children including children from developing countries and children living in poverty, (Bowman et al., 2001; Gardner, Walker, Powell, & Grantham-McGregor, 2003, Kagitcibasi, Sunar, & Bekman, 2001; Watanabe, Flores, Fujiwara, & Tran, 2005; Wendland-Carro, Piccinini, & Millar, 1999). Overwhelmingly the studies reported significantly higher cognitive functioning in young children given additional cognitive stimulation or learning opportunities by parents and other primary caregivers than the non-stimulated children in the control groups, some reporting effects as long as 17 years (Bao, Sun, & Wei, 1999; Eickmann et al., 2003; Kagitcibasi et al., 2001). This pattern of evidence strongly supports the importance of intervention of early cognitive stimulation for facilitating young children’s cognitive abilities (Watanabe et al., 2005).

Cognitive areas that showed an increase in ability due to early stimulation and adequate nutrition include child task orientation, social behaviors, self-confidence, and positive affect. Additionally, other benefits included were that maternal
sensitivity and responsiveness increased. In several studies maternal sensitivity was associated with more secure infant attachment, (Posada et al., 1999; Posada et al., 2002; Valenzuela, 1997). Intervention studies from Brazil and South Africa that promoted maternal sensitivity and responsivity through providing information to mothers about the development and capabilities of their young infants showed improvements in maternal behavior (Cooper, Landman, Tomlinson, Molteno, Swartz, & Murray, 2002; Wendland-Carro et al., 1999).

Motor Development

Montessori (1967) stated, “The most important period of life is not the age of university studies, but the first period from birth to age six. For that is the time when man's intelligence itself, his greatest implement, is being formed” (p. 33). Significant changes in physical growth and motor development occur in the early years. Children grow taller and become more coordinated in their gross and fine motor abilities. Children acquire gross motor, large muscle, skills and fine motor, small muscle, abilities in a predictable sequence. Motor development is characterized by a gradual refinement in abilities (Malina & Bouchard, 1991). Everyday opportunities should be provided by primary caregivers to exercise these muscles and encourage healthy development. Opportunity and practice are the most important factor in the development of motor capabilities (Adolph, Vereijken, & Shrout, 2003).

Physical growth is governed more by genetics and maturation during the preschool age (Haywood & Getchell, 2001). However, motor skill development is
also influenced by culture and family values, and patterns of play and opportunity (Garcia Coll, Surrey, & Weingarten, 1998). Thelen (1995) maintained that motor development is a continuous process of interaction between child and environment. She explained that the child and environment form an interconnected dynamic system, which includes the child’s motivation and her/his muscular development in a specific environment at a particular moment in time. Motor skills are not developed by maturation alone, but by active coordination of multiple systems of action within a changing environment. The opportunities and constraints presented by physical characteristics, the desire of the child, and the environment affect how the motor development proceeds. In other words, “behavior emerges in the moment from the self-organization of multiple components” (Spencer et al., 2006, p. 1523). Motor development arises from a child’s particular physical characteristics and experience in a particular context. Thelen also believed that her dynamic system theory applies in all realms of development (Spencer et al.). Environmental factors including cultural practices and child rearing practices may effect the pace of early motor development (Gardiner & Komitzki, 2005).

Plato’s model for the education and development of the ideal citizen included physical training. The Akademy of Plato was first and foremost a place of exercise for the body. He believed physical development was essential to the development of men and women capable of contributing to a “just” state (Plato, 1992). Gymnastics, as he called it, was an essential part of the ideal education for children in the areas of
their physical, moral, and intellectual development. For Plato, there was no separate education for the mind and the body. They were both developed concurrently (Plato).

Rousseau similarly believed physical development and activity was essential to the natural development and education of children (Henin, 1912). Rousseau assigned great importance to the physical health and development of the child. He believed that true knowledge could only be acquired through the senses and considered the body and the perceptual system to be integrated into the development of the whole child. Rousseau believed that everything which enters into human understanding comes there through the sense (Bloom, 1991; Henin).

Montessori and Piaget also included sensory and motor skills in their early childhood methods and theories of early childhood development (Montessori, 1912; Piaget, 1952). Motor development is closely associated with sensorial development including spatial awareness. Montessori (1972) believed that the first of the child's organs to begin functioning are his senses and stated

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\text{it is necessary to begin the education of senses in the formative period, if we wish to perfect this sense development with the education which is to follow. The education of the senses would be begun methodically in infancy, and should continue during the entire period of instruction which is to prepare the individual for life in society. (p. 145)}
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The connection between perception and action give a young child useful information about themselves and their world (Adolph & Eppler, 2002). Early stimulation and sharpening of the senses is important in the development of independence in motor tasks, the care of the self, and the child's naturally high
motivation to learn about the world as a means of gaining mastery over himself and his environment.

Malnutrition can have a devastating effect on motor development in the early years. Limited growth and poor skeletal formation, apathy and listless are impacts from malnutrition (Pollitt et al., 1996). In general, motor development of young children is greatly enhanced by early intervention program that provide education and parent support (Ramey & Ramey, 1998). Sadly, children who experience severe malnutrition in the early years may never reach their full physical and motor development potential.

Language Development and Culture

Child development as human development is a cultural process as well as a biological undertaking. Human development unfolds within the context of culture. Understanding the interaction between nature and nurture is set within a framework of culture. Bronfenbrenner (1979), Chomsky (1965), Piaget (1952), Rogoff (2003), and Vygotsky (1978) helped to develop the understanding of how young children are active agents in their own development and how the cultural environment effects early skill acquisition and the development of cognitive and linguistic structures and abilities. Children are defined in terms of their cultural participation. Many cultural ideas, beliefs, and patterns of behaviors are transmitted through an intergenerational process of enculturation (Barrera & Corso, 2003). Parent’s expectations, goals and aspirations, sleeping and eating routines, and knowledge and skills around health and
hygiene, are but a few areas that influence the development of the young child. These distinctive contexts shape the development of a young child (Shonkoff & Phillips, 2000). We use tools such as language and other daily patterns of behavior to learn from and prepare children for their world. These tools carry a heritage that we have not necessarily experienced personally, however we can integrate into the present generation. Each generation adapts and revises that which came from previous generations based on current situations.

Understanding the daily routines, regularities, and traditions people practice can help inform a community and individual’s approach to living. The participation of people in their community has significance in their development. “People develop as participant in cultural communities. Their development can be understood only in light of the cultural practices and circumstances of their communities--which also change” (Rogoff, 2003, pp. 3-4). The foundations of relationships and the fundamentals of socialization are culturally embedded and established during the early childhood years (Shonkoff & Phillips, 2000). These factors directly impact caregiving practices which significantly impact the development of the child. In communities where survival is assumed, children rearing practices are focused primarily on protection; the process of socialization reflects these values.

Children make sense out of cultural daily practices and learn and practice how to become members of their community and society. What I have observed in Champaigny, Nicaragua are many young children, as young as 4 and 5 years old,
responsible for younger sibling during the day. They seem to be skilled at taking care of their younger siblings or neighbor children. Instead of playing with dolls they are tending real babies. They are making a significant contribution to their family and community by taking care of the younger children. They practice and perfect the necessary skills they need to participate in their cultural communities. What they learn and do depends on "the cultural meaning given to the events and the social and institutional supports provided in their communities for learning and carrying out specific roles in the activities," (Rogoff, 2003, p. 6).

When working with families, the intervention program must take into account a family's cultural values and practices when acting on the behalf of the family and child. A difficulty within the study was that of balancing development that seems to be universal and that which is affected by culture. The development of a young child, cognitively, linguistically, and emotionally is linked to a child's everyday experiences which are embedded in the cultural practices or routines of his or her family and community. It is clear that human development and culture are interdependent. Children are active agents in their learning as well as products of their socialization within their culture through child rearing practices and influences, (Miller & Goodnow, 1995). To add to the dynamic process is the continuous development of the community itself. As new pressures and added to communities their routines and values adjust.
Being a participant action researcher, it was important for me to understand the regularities of the community I was involved with as well as my own regular patterns of behaviors and beliefs to help discern the diverse patterns of child development in the specific community as well as the historical context of the community. Discerning and understanding child rearing regularities can help inform the training program on childcare practices which support daily individual, community, and family childcare practices that were intended to increase the participation and intentionality of healthy child rearing practices.

Nicaragua’s history helped me understand the transitional and impoverished circumstances of the community. Many of the people living in Champaigny have recently participated in a war that lasted 10 years from 1979-1989. This war was preceded by a severely oppressive regime that spanned about 40 years. There were several natural disasters that occurred between 1990 and 2007 which left many families homeless dealing with scarcity of food, clothes, potable water, health care, and access to education and jobs. The land for Champaigny was set aside just after hurricane Mitch in 1999 to help the people who were displaced by the hurricane. Originally the land was to hold 180 homes. Due to the high need of land there are currently 554 homes on the land that was designated for 180. A water system was built in 2001 to bring drinkable water from a spring situated in the mountains above the village. The community does not have a black water system or a system for garbage disposal and the drinking water is not considered potable by the time it has...
reached the individual family faucets. About 75% of the adults in the community are illiterate. The unemployment reaches 85% when the tobacco fields are between harvesting and planting which ranges from two to three months a year. During the tobacco season about 65% of the community is employed for about 50 cordabas equivalent to $2.60 a day. Over 80% of the families live on less than $2.00 a day.

Many of the current child development theories are based in a European and North America perspective. Much of the research has been generalized, perhaps overly generalized in claiming that the child does something at a particular time. These generalizations may not apply to the particular children in Champaigny. Timetables have been developed for people to use as guides to child development. I argue that culture and participation in the cultural daily patterns of behavior influence child development in a way that European and North American timetables may not be applicable (Dasen & Heron, 1981; Malinowski, 1927; Rogoff, 2003; Vygotsky, 1978).

Emotional Development and Attachment

Cross cultural studies suggest that basic human emotions are universal (Ainsworth, 1977; Ekman, 1994). What varies among cultures is the time and place when certain emotions may be expressed and learned (Harwood, 1992; Harwood, Miller, & Irizarry, 1995). Young children form important relationships with their primary caregivers, relatives, and peers. Healthy emotional development is significantly impacted by the ability of infants and toddlers to form early relationships
and secure attachments with significant adults (Bowlby, 1969; Hyson, 2003; Lyons-Ruth, Easterbrooks, & Cibelli, 1997). These bonds are critical to healthy relationships later in life. Erikson (1963) showed that emotionally healthy babies come to understand that they have a need for nurturing from primary caregivers and a need for a responsive caregiver who will respond and meet their basic needs. If the world is seen as safe and predictable, babies and toddler can enter into trusting relationships with primary caregivers and other adults. Babies who receive neglect or abuse, and who do not have a primary caregiver that responds to their basic needs may doubt the trustworthiness of the world and may be impaired from healthy relationship formation in the future (Erikson).

As children grow into the preschool age, Erikson (1963) concluded that initiative versus guilt is the emotional conflict children experience. Children need to be supported by caregivers in their energy that is driven towards taking action and asserting themselves. This time of growth in young children opens their creativity, inventiveness, their ability to pretend, to take risks, and to engage in lively activities with their peers. Erikson suggested that children who are punished or criticized for their efforts will gradually stop trying and will construct understanding of themselves as a bad person (Harter, 1990). Research has supported the idea that social initiative is critical for positive peer relationships and can affect the overall happiness and mental health of children (Ladd, & Burgess, 1999; Parker, Rubin, Price, & DeRosier, 1995). Caregivers, if given the knowledge and skills can help children acquire social
and emotional skills that will help them grow and develop healthfully as well as develop healthy relationships later in life.

It is important for primary caregivers to be nurturing in their interactions with infants, toddlers, and young children to support secure attachment relationships. Goodness of fit is important to establish between primary caregiver and the young child. The understanding of how temperament and inborn characteristics influence young children’s reactions and behaviors is central to providing an appropriate response to the child (Kochanska, 2001). It is valuable for caregivers to understand the role of biology and experience has in determining what sorts of support they can offer.

Young children acquire a range of emotion and expressions while interacting with their primary caregiver and other family members. These interactions assist the young child in their emotional development (Belsky, Friedman, & Hsieh, 2001). It is worthy for caregivers to understand how to support the emotional development of young children and how this will effect the ability to establish healthy behaviors and relationships in the child’s future (Ahnert, Pinquart, & Lamb, 2006).

Parent behaviors influence attachment formation. Responsiveness and warm physical contact increase the chances of forming secure attachment bonds (Posada et al., 1999). Family stress and poverty are two environmental conditions that negatively impact health emotional development. Parental depression typically leaves parents unable to quickly respond with warmth to young children’s initiatives
(Lyons-Ruth et al., 1997). The impact of poverty has been found to cause illness and fatigue in parents and young children (Vondra & Barnett, 1999). Poverty conditions can result in families having to move more frequently, increase in parental stress, and an overall lack of sensitivity to young children's needs. Interventions can help support parent-child relationships through weekly home visits and parent support groups (Lieberman, Weston, & Pawl, 1991; Lyons-Ruth et al., 1990; Wendland-Carro et al., 1999). Interventions consisting of an educational component advising parents on specific behaviors consistent with the values of their socialization processes and practices can increase secure attachment relationships and healthy emotional development.

Bronfenbrenner's (1979, 1986) ecological model of development explained how the environment of the child and the child's biological make up influence a child's well-being and how the child's well-being influences the well-being of the family and community. According to Bronfenbrenner (1999) proximal processes or "enduring forms of interaction in the immediate environment . . . [that] occur on a fairly regular basis over extended periods of time" (p. 5); in other words, children who have access to stimulating environments and responsive relationships with caregivers are more likely to exhibit greater developmental success compared with children who are live in an impoverished environment and non-responsive and uninformed caregiving. The ecological model goes on to say that differential developmental paths derive from the opportunities of available and from the quality
of proximal processes and the cumulative impact of external environmental factors such as social and economic influences (Bronfenbrenner, 1999).

Maltreatment and Poverty

For women and girls in poverty, women's sexuality, education, and labor are controlled in ways through national policies on welfare and workfare. For women who do manage to achieve some education, their work and labor stills remains underpaid and exploited, regardless if the work is at home or out of the home. This denies women access to political discourse. Their voices remain absent from the discourse. J. Thompson (1983) pointed out:

The separation of different groups of women from each other prevents the identification of common grievances and the recognition of shared subordination which needs to be our priority if the social stranglehold of patriarchy is to be confronted and resisted. (p. 126)

Bronfenbrenner's (1979) bioecological theory explained maltreatment and neglect reflect the interplay of multiple layers of contributing factors involving the family, the community and the society at large. Most parents are caring and nurturing adults, however, some cannot or will not take appropriate and proper care of their children. Maltreatment of children either deliberate or not is endangering the development and well-being of a child. The highest rates of victimization and death from maltreatment or neglect are for children ages 3 and younger (U.S. Department of Health and Human Services, Administration on Children, Youth, & Families,
Failure to thrive babies can result from one or more of inadequate nutrition, dysfunction interactions with parents and other primary caregivers, and disease.

Poverty is the greatest single risk factor for failure to thrive worldwide (Block, Krebs, the Committee on Child Abuse and Neglect, & the Committee on Nutrition, 2005). The long-term consequences of maltreatment or neglect may include negative impacts on the physical, emotional, cognitive, social, and brain development (Fries et al., 2005; Glaser, 2000, National Clearinghouse on Child Abuse and Neglect Information [NCCANI], 2004). Maltreated and neglected children can show remarkable resilience. Preventing or stopping the maltreatment and neglect of young children may require multifaceted community efforts. Protective factors such as optimism, self-esteem, creativity, humor, and independence can be brought forward with the social and emotional support of a caring primary caregiver (NCCANI).

**ECCDE**

There exist profound connections between the consistent caregiving of primary caregivers and healthy emotional development in very young children. In extreme cases, there were children who die due to the abandonment of their primary caregiver (Emde, 1984; Spitz, 1945, 1946). My aim through this study was to contribute to the understanding of how early childhood care, development, and education (ECCDE) training can be used to increase knowledge and skills for primary caregivers in rural areas of Nicaragua, thereby reducing the impact of poverty through the support of non-violence, prevention, and intervention. An early childhood care,
development, and education program combines elements from several childhood related fields. These fields include studies in infant stimulation, health, nutrition, early childhood education and training, community development, women's studies and development, psychology, sociology, child development, and economics.

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Early childhood is defined as the period of a child’s life from birth through 8 years of age. There are universal developmental stages that young children go through during this period of development. At this age, children learn best when they have opportunities to manipulate their surroundings, explore the world around them, and experiment within a safe and stimulating environment. Learning by doing is crucial during early childhood. Towards the end of this period the child enters an age of reason (Montessori, 1967).

The care in ECCDE refers to the care children need from their family and community. Care is a process which can support children’s optimal development and growth, includes nutrition, those social processes that promote healthy growth and development, and consistent caring attention. Neglected children are prone to sickness and malnutrition. These conditions severely limit their ability to thrive.
(Engle & Lhostská, 1999; Spitz, 1944, 1952; Zeitlin, Ghassemi, & Mansour, 1990). When attentive care is given by adults and significant others in a child's life then that child are provided with opportunities for relationships and interactions by others modeling, offering stimulation, and furnishing protection (Hill, 2003).

The word *development* in ECCDE refers to the process of changes and the unfolding of biological and social growth. Development includes the physical, mental, emotional, and spiritual growth of a child. Learning impacts development. Learning is defined as the process of acquiring skills, knowledge, and values through experience, observation, reflection, and instruction (Meyers, 1995). Learning is greatly affected by the quality of care a child receives. During this time, continuity of experiences is also essential for healthy growth and development. Brain growth and development are dependent on the biological influences and the prenatal experience (Shore, 1997). However, the wiring and most of the rapid brain growth take place during the first few years of life. This wiring lays the foundation for a child's immune system as well as the intellectual, emotional, physical, and social functions for the child's future (Carnegie Corporation, 1994; Mustard, 2006). The investment in ECCDE promotes optimal growth so that children develop the ability to acquire skills which allow them to function effectively in their cultures and to adapt successfully to change.

*Education* in ECCDE programs addresses the specific needs of children by providing training to strengthen the parenting skills of primary caregivers. This is
done by working with primary caregivers and family members to address specific
developmental needs of young children, by creating and strengthening child care
options, and supporting women and families by providing services and economic
support. In addition, education in ECCDE training programs builds the capacities of
families and communities, by working with community based problems, and
stimulating primary caregivers to mobilize and work together to solve individual and
community issues around early childhood.

Putting care, development, and education into early childhood programs and
training brings about a healthy holistic program than supports the holistic
development of the child. Programs and training are best used when they are created
to be child- friendly, family-focused, and community-based. For this study, ECCDE
programs were used a holistic approach applying current knowledge about early
childhood development along with the knowledge and experiences of the local
community primary caregivers. The training program included sharing knowledge
and practices in the development of cognitive, language, social, emotional, and
physical domains of development and learning. Physical development and learning
included but was not limited to: areas of nutrition, basic hygiene, oral hygiene,
potable water, and safety precautions as well as gross and motor development. The
training was given in informal and formal educational settings.
History of ECCDE

Historically, ECCDE programs have not received much attention. However, since 1989, three worldwide events have given new emphasis and hope to early childhood care, development, and education. The results of the three events have outlined the need to advocate for the healthy growth of young children and form a link between ECCDE and community development on local, nation, and global levels. In addition, they have increased the awareness of decision makers on the importance of early development to later success in school and in life.

The first event was the Convention on the Rights of the Child, which was approved by the General Assembly of the United Nations in November 1989 and called for the provision of specific resources, skills, and contributions necessary to ensure the survival and development of children to their maximum capability. The convention also required the creation of means to protect children from neglect, exploitation, and abuse and to ensure that the rights of children are upheld. Articles 6 and 18.2 Convention on the Right of the Child (UNICEF, 1989) clearly state that the responsibility for a child’s survival and development belongs to both the parents and the state.

States Parties shall ensure to the maximum extent possible the survival and development of the child ... and for the purpose of guaranteeing and promoting the rights set forth in the present Convention, States Parties shall render appropriate assistance to parents and legal guardians in the performance of their child-rearing responsibilities and shall ensure the development of institutions, facilities and services for the care of children. (Article 6 and Article 18.2)
The Convention is child-centric and deals with the child-specific needs and rights. It requires that states act in the best interests of the child. This approach is different from the common law approach found in many countries that had previously treated children and wives as possessions or chattels, ownership of which was often argued over in family disputes (Cornwall, 2006; UNICEF, 2007). Women and children are often relegated to the sidelines of society, culture, politics, and economics. Women are discussed but not truly involved. A woman’s lack of power in society diminishes her influence over her life and her children’s. UNICEF’s *The State of the World’s Children* (Bonham-Carter, 2006) noted the inextricable link between women’s rights and children’s well-being. The crux of the report is that “the amount of influence women have over the decisions in the household has been shown to positively impact the nutrition, healthcare and education of their children” (p. 10).

As a final point, the Convention expressly recognizes that parents have the most important role in the bringing up of children. The text encourages parents to deal with rights issues with their children “in a manner consistent with the evolving capacities of the child” (UNICEF, 1989, Article 5). Parents who are intuitively aware of their child’s level of development will do this naturally. Therefore, a study on how to use ECCDE training as a foundation for community development can help inform community decision makers and parents about ways that can be used to increase the psychological and physical well-being of young children.
The second event was held in 1990, The World Conference on Education for All organized by UNICEF and UNESCO, the World Bank, and UNDP. This event was held with representatives from over 155 countries along with over 150 non-governmental organizations and officials and specialists representing some 20 intergovernmental bodies. They created and approved a document, The Framework for Action to Meet Basic Learning Needs (World Declaration on Education for All, 1990). Increasing knowledge about the early years of childhood development contributed to the inclusion of this field in the Framework for Action’s goals. Article 5 stated, “Learning begins at birth. This calls for early childhood care and initial education. These can be provided through arrangements involving families, communities, or institutional programs as appropriate” (Dakar Framework, 2000, pg. 76). In addition, the first goal outlined in the Framework for Action document advocates for an “expansion of early childhood care and development activities including family and community interventions, especially for poor, disadvantaged, and disabled children” (Dakar Framework, p. 74). The EFA commitments called for “early care and initial education, which can be provided through arrangements involving families, communities or institutional programs as appropriate” (World Declaration on Education for All, 1990, pg. 1). The Dakar Framework reconfirmed this commitment by including to “expand and improve comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children” (p. 8) among the goals.
The third event, a World Summit for Children, took place September 1990 where 70 heads of state discussed the plight of children and opened the door for new efforts to improve the quality of child care and child development. A plan of action was developed to increase the quality of care for children as it was recognized that the survival, protection and development of children are prerequisites for the future development of humanity. Areas of focus in the goals and plans set forth during the summit include but are not limited to: malnutrition and nutrition, clean water, sanitation, preventable childhood diseases, actions to increase the quality of development for young children, maternal health, family responsibility in the respectful nurturing and care of children, and child labor. It was clearly stated that the child-specific actions proposed must be pursued as part of the strengthening of broader community development programs (Plan for Action, 1990).

"Of the more than 800 million children under six years of age, fewer than a third benefit from any form of early childhood education" (Dakar Framework, 2000). Every year, more than 130 million children are born around the world, some 120 million in impoverished nations (UNDP, 2006). While child mortality remains a serious issue, an increasing number of young children do survive. Today there are more than 500 million children under age 5 living in impoverished countries, many of whom face serious risks to their development due to inadequate nutrition, poor living conditions, and lack of access to health care and early stimulation (UNICEF, 2007).
The need to advocate for their healthy growth forms the link between the early childhood movement and community development.

Virtually all countries in the world have ratified the United Nations Convention on the Rights of the Child and have thereby accepted an obligation to ensure the right of every child to have opportunities for healthy growth and development in early childhood. Although early childhood non-formal education and skills training have made an impact, the creation and growth of these programs has been slow, especially in urban areas (Dakar Framework, 2000). Information is sparse on the nature and quality of teaching and learning and how they relate to educational outcomes decreasing the effects of poverty (Dakar Framework). The importance of gathering and carefully analyzing reliable data at national and local levels is evident. Reliable education research and statistics are essential if progress is to be properly measured, experiences shared, and lessons learned. In addition, research to help identify how formal and informal ECCDE training can improve the quality of care for young children is needed throughout the world.

Nicaragua

Nicaragua is the largest of the Central American countries and is the second poorest nation in the western hemisphere. Nicaragua has a population of about 5.5 million people, half of which live well below the poverty line. According to the recent State of the Child, 2006, the infant mortality rate (IMR) is 31/1000 and the under 5 mortality rate (u5MR) is 40/1000 (UNICEF, 2005). Jalapa, the community
for the study, is situated in the most central northern part of Nicaragua on the Honduran border. It is one of the poorest regions in Nicaragua and has a higher IMR and u5MR than the average for the country.

The subject of universal rights for children is of major importance to the Nicaraguan government, as shown by the ratification of the International Convention of the Rights of the Child. Nicaragua is an excellent example of the impact from the three international events stated above. In 2003, the offices of the Ministry of Education, Culture and Sports, Ministry of the Family, and the Ministry of Health worked together to write the Estrategia Nacional de Educación Inicial (National Initial Education Strategies 2004-2014 document; Estrategia Nacional de Educación Inicial, 2003). With funding from UNICEF, the Interamerican Development Bank, and Save the Children Norway, were sparked to create innovations to impact the needs of the country as outlined in the document. The focus of the Estrategia Nacional de Educación Inicial 2004-2014 document was to increase the quality of care and development for those in early childhood and for pregnant women. The challenge set forth in the 2004-2014 document was to initiate a political process that amplifies and strengthens the reflection, discussion, and commitment to the diverse sectors of the Nicaraguan society while making the rights of the child from birth a reality. The Inter-institutional Commission of Education was created to collect information from around the country on the well-being of young children and families in Nicaragua and to provide that information to the Ministry of Education, the
Ministry of the Family, and the Ministry of Health. This information was then used to identify, address, and prioritize the needs of young children. The 2004-2014 document is the response to this process.


1. Increase the amount and quality of stimulation for the youngest children.

2. Increase nutrition and the registration of births while reducing the inequalities of services to all children with a focus on the children in the coast and north central regions of the country.

3. To amplify the education and quality of care for pregnant women, including education, nutrition, and early stimulation for their babies.

4. To increase education in schools in the areas of social behaviors, citizenship, and the orientation of the family and community.

5. To increase the peace building skills and knowledge necessary to support a democratic community.

6. To improve the incorporation of children with disabilities.

7. To improve the well-being of infants, reduce infant mortality, and reduce violence towards children.

The first important step to improve the quality of care for children must come from the National Government. The Framework for Action stated that progress in
meeting the basic learning needs of all will depend ultimately on the actions taken within individual countries. This means first that governments must make firm political commitments (Dakar Framework, 2000; UNICEF, 1989). Another important step is to include participation from families, communities, local municipalities, and non-governmental organizations. Civil society has much experience and has a crucial role to play in identifying barriers to increasing the well-being of children and developing policies and strategies to remove these barriers. Such participation, especially at the local level through partnerships between educational organizations, schools, and communities, is essential in order to foster the development of accountable, comprehensive, flexible, and sustainable programs. In order to facilitate this process, the number of people involved in civil society organizations will have to increase.

Why ECCDE Training and Programs?

There exist several lines of reasoning for choosing early childhood training programs to improve the care of primary caregivers and the overall psychological and physical well-being through community. Meyers (1995) wrote about a human rights argument. The United Nations General Assembly ratified the Declaration of the UN Convention on the Rights of a Child in 1989. Article Six of the document states the signatories are to work “... to ensure to the maximum extent possible child survival and development” (UNICEF, 1989) Furthermore, stated in article 18.3 “children of working parents have the right to benefit from child care services and facilities for
which they are eligible” (UNICEF, 1989). The Convention on the Rights of the Child, with all the signatories, gives evidence of support to the universal human right for every child to have a healthy development.

The next line of reasoning is an economic one (Barnett, 2002; Ewen & Matthews, 2007; Lynch, 2004; Pungello et al., 2006; Rolnick & Grunewald, 2003). Investments in preschool are now being described as an economic development policy for states (Ewen & Matthews; Reynolds & Temple, 2006). Most recently, in October of 2007 in San Jose, Costa Rica renowned economists along with others studying and prioritizing the problems of the Latin American region listed early childhood development programs as the number one investment as an effective solution to the top ten issues. The economists listed early childhood development programs “would offer the greatest development impact per dollar spent” (Inter-American Development Bank, 2007). The top ten issues were “education, violence and crime, poverty and inequality, fiscal policy, democracy, infrastructure, forests and biodiversity, employment, public institutions and health” (Inter-American Development Bank).

A social benefits argument looks at the long term effects that ECCDE programs have on the society at large. Recent studies of high-quality early childhood development programs have consistently found that investing in young children has many important benefits for children, their families, and society at large (Lynch, 2004). Crime rates and the heavy economic costs of criminality to society are likely
to be substantially reduced. Children who often have inadequate food, safety, shelter, and health care too often fall short of achieving their academic potential, making them more likely to enter adulthood lacking the skills to be successful. The availability of ECCDE programs encourages education for the older siblings, who too often must remain out of school to care for younger children in the family (UNICEF, 2007). What is more, children who do not have quality early childhood experiences are more likely to suffer from poor health and participate in crime and other anti-social behavior; these children are also less likely to grow up to be gainfully employed or contribute to economic growth and community well-being (Grunewald, & Rolnick, 2009; Heckman, 2000; Lynch, 2004, 2007; Meyers, 1995; Rolnick & Grunewald, 2007b).

The last 50 years have strengthened the scientific reasoning that the early years of a child’s life are critical in the formation of intelligence, personality, and social behavior of people (Shonkoff & Phillips, 2000). Children undergo tremendous intellectual, emotional, and physical development in early childhood (Brazelton & Greenspan, 2001). Providing safe, loving, and enriching environments for children at this stage is crucial to development. Shonkoff and Phillips presented important conclusions about nature-versus-nurture, the impact of being born into a working family, the effect of politics on programs for children, the costs and benefits of intervention, and other issues. Current research presents significant amounts of evidence about “brain wiring” and how children learn to speak, think, and regulate
their behavior (Krebs, 2006; Shonkoff & Phillips; Shore, 1997). Brain development is affected by the family climate and conditions, the childcare quality and opportunities, and the community within which the child grows.

Each of these lines of reason stands on its own, but they are more compelling when positioned together. There is an increasing awareness of the importance of early development to later success in school and in life. Research indicates that brain development is most active from pre-birth to age 6. We know that strong relationships and positive early experiences lay the foundation for later health, development, and quality of life). When well nurtured and cared for in the early years, children are more likely to survive, to have fewer illnesses, and to more fully develop their thinking, language, emotional, and social skills.

A growing number of studies emerging throughout the world are documenting the benefits of early childhood programs. Investing in high-quality early childhood development programs are improving the quality of life for millions of children, reducing crime, making the workforce of the future more productive, which strengthens the overall economy (Lynch, 2004). Investments in the early years pay off in success in school and lead to a more productive economy. According to Heckman (2006), investments in the early years “raise earnings and promote social attachment. Focusing solely on earnings gain, returns to dollars invested are as high as 15-17%” (p. A14). It is not enough just to provide the structure or financing of the program; it is also necessary to build personnel and the political resolve to carry it
out. Fortunately, leaders from the public and private sectors are beginning to recognize the importance of the early years and are investing and participating in ECCDE programs. The 2007 UNESCO Global Monitoring Report for Education for All reports on the benefit of ECCDE programs around the world (UNESCO, 2007).

**The Relationship Between Child Development and Child Survival**

A substantial knowledge base exists that can be used in clarifying and fostering the increase of quality care and development for young children. Drawing from this body of knowledge, there seems to be a distinction between child survival and child development. This is something I believe to be quite important for program development sustainability and impact on the poorer populations.

Child survival and child development are simultaneous processes rather than sequential. Each has an impact on the other, and they do not occur in isolation. Many programs that attend to child survival put an emphasis on the child not dying or avoiding death. The success of this type of program is usually measured by infant mortality rate (IMR) or under 5 mortality rate (U5MR), which is how many out of 1,000 children in that age bracket have died over a determined period of time. These statistics can be easily counted and recorded because dying is a process which results in death. The process usually includes some period of illness or deterioration in the physical, mental, and/or social health of a child. Before death, the child is surviving, and ECCDE programs need to focus on the survival of the child and what makes a child thrive rather than what prevents the child from dying.
A surviving child runs along a continuum resulting in death at one end and continued living while growing and developing at the other. Looking at survival on a continuum, we can then think of a surviving child as moving toward a state of health rather than just preventing death. Looking at child survival in this light encourages a perspective that looks beyond the programs that reduce mortality to one that creates programs that will improve health. We can then measure the children's survival rate as a ratio increasing towards health rather than one that decreases due to death.

An emphasis on living and health has a great impact on the decision to develop programs. Child growth and development programs typically attend to physical attributes such as weight and height gain, vision and hearing scores using growth charts for record keeping. However, only using physical growth as a condition of health limits what healthy development is by excluding the psychological and social development of children (Meyers, 1995). For example, the psychological and social well-being of a child has a direct relationship to the health statistics of children. Children who are not physically developing and growing at a normal and healthy rate need more food and caloric intake. However, providing more food is not necessarily enough given that feeding is a social process. Meyers stated, "Feeding involves an interaction between mother or caregiver and the young child" (p. 38). Therefore, growth depends on the quantity of food, quality of food, and how well the food is assimilated and used by the body. How well the food is used by the body is affected by any emotional and social stress and the strength of a child's body
Development is different from growth in that growth typically refers to size; development refers to complexity and function. "Child development is a process of change where the child learns to handle more complex levels of moving, thinking, feeling, and relating to others" (Meyers, 1995, p. 39). Development is integral; changes along one dimension effect changes in other dimensions. The changes are interrelated. The learning of a child is affected if that child is under stress and is unable to cope with the stress. Therefore the whole child needs to be addressed in any program designed for child development. Development is also a continual process, occurring throughout life. Continual development means that a child is always developing and that whatever happens at one moment will have an effect on the development that follows. Development occurs in interaction with the child's environment, the people and things around them. Programs need to foster the child's construction of their own world through opportunities of interaction rather than just by providing stimulation. Furthermore, the child's environment impacts the child's development, for example through nutrition that is available, and opportunities for safe exploration and movement (Shonkoff & Phillips, 2000). Although the rate and quality of the development varies from child to child, there is a general sequence to child development. The biological make up of the child as well as the environment and cultural patterns of behavior impact the child's development (Shonkoff &
Phillips). Therefore, as Bronfenbrenner (1979) suggested, the development of a child is a lasting change in the way in which a person perceives and deals with his or her environment. This definition is quite different from a target or goal of survival.

Childcare refers to the actions that are taken to promote growth and development. Care goes beyond responding to the basic needs of protection, food, potable water, and basic health care. Care also includes attachment, affection, and opportunities for interaction being provided through consistent, predictable interaction with adults and children discovering their world while playing with others. Childcare includes custodial care and the psychological, social, and emotional welfare of the child.

*Home Visitation Program*

The family seems to be the most effective and economical system for fostering and sustaining the child’s development. Without family involvement, intervention is likely to be unsuccessful, and what few effects are achieved are likely to disappear once the intervention is discontinued (Bronfenbrenner, 1979). Educators, along with other professionals such as doctors, nurses, and social workers, have used home-community visits for over 100 years as an effective tool to provide support and services to children. Home visitation programs began in the United States in the late 19th century. Public health nurses and social workers provided in-home education and health care to women and children, primarily in poor urban environments (Council on Child and Adolescent Health, 1998).
Many communities have long forgotten the benefits and process of home visits. Home visits are a unique service-provision strategy because they bring the services directly to hard-to-reach families who may be isolated geographically, socially, and psychologically, thereby overcoming these barriers for people who cannot attend (Weiss, 1993). Home visits also represent the visitor's willingness to enter a family's home and neighborhood, thereby creating a less formal, more relaxed relationship between educator or promoter and parent. This helps equalize the balance of power between the two and increases the acceptance of new knowledge (Weiss).

During the early 1900s, home visitation programs resulted in an increase in the achievement of quality of care for children as well as the improvements of social conditions and social justice for children and families. Bhavnagri and Krolikowski (2000) cited several results of that era which include: (a) parents valuing play, (b) appropriate transformation of child-rearing practices and neighborhoods, (c) families receiving welfare services, (d) parents becoming local advocates and leaders, and (e) reforming child labor practices and legislating compulsory education.

The charity kindergarten movement, often called the "Kindergarten Crusade," developed from young idealistic women spreading the philosophy and practices of Froebel. Their work was to "save the children" from the depravity and hopelessness that their parents were confronting in the slums (Ross, 1976). They believed that their work with the children and families, which was largely based on home-
visitations would allow the potential of the young children to unfold, who would then grow up and participate in the democracy of the nation (Snyder, 1972). "The more kindergartens, the fewer prisons" was a common saying used at the time (Riis, 1970, p. 181).

The home-visitation programs had several purposes, which included educating parents about kindergarten education; knowing the children as individuals by intimately knowing the families and the neighborhoods in which they were raised; teaching parents about nutrition, hygiene, alternative methods of discipline, and child development; and utilizing the community’s resources to optimize children’s development and promote attendance in kindergarten (Bhavnagri & Krolikowski, 2000).

The first step the promoters took was to build a supportive relationship between promoter and parent through high frequency visits. It was reported during this time that the promoters were welcomed because of their rapport building skills and not just accepted (Bhavnagri & Krolikowski, 2000). Stated by Wiggins in 1923 (as cited in Bhavnagri & Krolikowski)

I never entered any house where I felt the least sensation of being out of place. I don't think this flexibility is a gift of especially high order, nor that it would be equally valuable in all walks of life, but it is of great service in this sort of work. Whether I sat in a stuffed chair or on a nail keg or an inverted washtub, it was always equally agreeable to me. The "getting into relation" perfectly, and without the loss of a moment, gave me a sense of mental and spiritual exhilaration. I never had to adapt myself elaborately to a strange situation in order to be in sympathy. My one idea was to keep the situation simple and free from embarrassment to any one; to be as completely a part of it as if I had
been born there; to be helpful without being intrusive; to show no surprise whatever happened; above all, to be cheerful, strong, and bracing, not weakly sentimental. (pp. 112-113)

The next step was to introduce methods of play and stimulation as effective child rearing practices for the whole family to engage in (Ross, 1976). “The first and most obvious outcome of home-community visits was that the parents began to value play as an educational activity and not as frivolity, idleness, sloth, and a waste of time” (Bhavnagri & Krolikowski, 2000, ¶ 27). Additional outcomes included were the change in child rearing practices, transformations of neighborhoods, and more effectively accessing community resources (Snyder, 1972).

Importance

Home visits are an effective tool for the education of women and children living in impoverished sectors of the world (Bhavnagri & Krolikowski, 2000). The home-community visitors promoted the development of young children by addressing the needs of poor and vulnerable children, their families, and their communities. Dr C. Henry Kempe (1976) suggested that to ensure the right of every child to comprehensive care, every pregnant woman be assigned a home health visitor who would work with the family until the child began school. In the 1992 Jacobi Award Address, Sia (1992) renewed Kempe’s arguments, citing additional information about the effectiveness of health-related home-visitation programs in Hawaii for improving health and social outcomes for children. Currently, the empirical evidence does
support the efficacy of the home-visitation model and its growing capacity to achieve its stated objectives with an increasing proportion of new parents (Daro, 2006).

Knowledge, attitudes, and the development of relationships are fundamental constructs creating optimal learning situations in home-visitation programs. Unfortunately, many families have insufficient knowledge of parenting skills and an inadequate support system of friends, extended family, or professionals to help with the emotional, physical, developmental, and health care needs of their young children (Council on Child and Adolescent Health, 1998). Home-visitation programs offer an effective mechanism to ensure ongoing parental education and social support. The effect of home-visitation programs seems to be greatest in high-risk populations, such as teenage mothers who are poor, single, or have been abused themselves, or with populations of children who are pre-term or low birth weight (Kritzman et al., 1997).

Building relationships is a key in developing opportunities for women to find their voice and to create spaces that allows education to have meaning (Belenky, Bond, & Weinstock, 1991). Once women find their voice, they can then share their circumstances, challenges, and ideas for possible solutions rather than waiting for someone else to come and fix their problems (Belenky et al.). Home-visitation programs include a “degree of social support” that is not found in the community or services most women have access to (Council on Child and Adolescent Health, 1998). This type of social support increases a woman’s ability to speak for herself and to better care for her children. Additionally, many young children “ride” with the
experience as their mom learns and develops the tools necessary to problem solve their daily challenges and to increase the quality of their daily lives. This learning process, if done with purposefulness and integrity, can affect generations to come.

Using the methodology of home visits to change attitudes and perceptions of reality allows for optimal learning opportunities. Changing daily patterns of behavior can create sustainable change that can improve the quality of life and offer opportunities and choices to those who have been denied these things in the past. Typically in the past, when early childhood professionals visited the homes of children, they visited the entire neighborhood as well. These professionals actively promoted community development of those neighborhoods knowing that the condition of the neighborhoods affected the well-being of the children (Bhavnagri & Krolikowski, 2000). Early childhood professionals understand how improving the environment that young children live around and reducing violence and crime in their neighborhoods, has a direct effect on the well-being of the children (Children’s Defense Fund, 1999). Home visits were seen as an integrated unified strategy that promoted the development of children in both their families and communities.
CHAPTER 3
WHY PARTICIPATORY ACTION RESEARCH

Participatory Action Research (PAR) is becoming increasingly popular in social science disciplines. PAR, with its inherent emphasis on an equal relationship between the researcher and the researched, emphasizes the importance of respecting the situated knowledge of participants. This method has been set free from the dogma of positivism and its illusion of “neutrality” and “detachment” within the research process, and stresses the significance of working with people, systems, and organizations within the community (Denzin & Lincoln, 2000). Within the entire research process, the priority of creating social changes that move towards empowerment, social justice, and the betterment of the participants of the research is at the forefront of decision making. The use of praxis and social changes are two essential components of PAR and the project.

Kemmis and McTaggart (1988) stated participatory action research is a “collective, self-reflective enquiry undertaken by participants in social situations in order improve the rationality and justice of their own social . . . practices” (p. 5).

Four basic components, which are carried out in a continuous cyclical spiral process, compromise PAR: naming and planning, reflection, action, and participant observation. Planning in PAR is emergent and constructs change and decisions from information that arises within discussions among the participants during the research process. In addition, the plan for group and individual action must be critically examined including the possible consequences of the action taken. Reflection is the process of critical thinking through and engaging in a dialectical dialogue about our ideas and observations to make better informed decisions which will guide our action. Self-reflection is an important part of the overall reflective process.

Action refers to action that is researched, changed, and re-researched with the participants, in order to create change moving towards social justice. Observation is done through immersing oneself into the subject under study, usually over an extended period of time to gain a deeper understanding of the situation and how local people perceive the situation. Observation is also used to study interpersonal group processes. PAR relies on first hand information from participants and other local people, has high face validity of data, and is relatively inexpensive to utilize. The
downside of PAR is the increased threat to the objectivity of the researcher and possible observer effects.

The four basic components closely follow Freire’s (1970) idea of praxis. Praxis is the practice of reflection and questioning that leads students to act on one’s conclusions and assumptions. One of the founding beliefs for the use of praxis and PAR is to move people from a world of domestication and adjustment from the oppression they live with to a place of empowerment and transformation of power so people may question the prevailing order and by doing so create a new order that moves towards social justice. According to Freire, education is domesticating, the banking of knowledge; or liberating, the transformation and empowerment of people and society.

Freire (1970) used the concept of “Banking Education” to explain a traditional framework of curriculum delivery that assumes that knowledge solely resides with the educator and the purpose of schooling is to deposit or “bank” knowledge into the minds of the students. In a banking educational model, students are subordinate and propagate the current oppressive political structure. The perception people tend to put forth is there is no other way to be than the current situation and any questioning of that system is wrong or inappropriate. The banking model contrasts with liberating education or popular education, or questioning education (Freire, 1970). Liberating education is the process of transformation or humanizing people who have been oppressed. The humanization process can be a politically subversive process as
it empowers oppressed people to question their lives and position in society (Auerbach, 1992). “Because it is a distortion of being more fully human, sooner or later being less human leads the oppressed to struggle against those who made them so” (p. 28). Freire referred to this transformative process as “conscientizcao” or critical consciousness (Freire, 1970).

Freire (1970) believed the reason to educate was to foster a critical consciousness through the questioning of political, social, and economic realities and transforming these realities by setting up democratic, non-dictatorial practices in the lives of people. With the knowledge and skills of praxis, the barriers between teacher and student breaks down. “Education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers and students” (p. 62).

Popular education implies the teacher lives and works side by side with the students, uniting against oppression, “. . . true solidarity with the oppressed means fighting at their side to transform the objective reality that has made them these 'beings for another’” (Freire, 1970, p. 34). “Rationalizing . . . guilt through paternalistic treatment of the oppressed, all the while holding them fast in a position of dependence, will not do. Solidarity requires that one enter into the situation of those with whom one is in solidarity; it is a radical posture” (Freire, 1970, p. 34). This is one of the basic premises of the researcher in PAR.
A dialectical dialogue is an important ingredient throughout the cyclical process of PAR. This type of dialogue requires practice of arriving at a perceived truth through the exchange of logical arguments. An assumption brought to the dialogues is that life is in a constant process of change brought about by the tension between conflicting or interacting forces, elements, or ideas. The method of dialectical dialogue or exposition systematically weighs contradictory facts or ideas with a perceived view to the resolution of the real or apparent contradictions. The contradiction between two conflicting forces is viewed as the determining factor in the continuing interaction.

Freire (1970) looked at education as a practice of freedom (page vii). He thought the dialectical dialogue was an essential transformative practice or agent of one’s own social reality and imperative in the educational process. The development that springs from such a dialogue is to transform people not merely to change structures. He suggested that those who are truly oppressed do not enjoy the freedom to fail, and the luxury of experimenting within their educational journey. He stated “that to be human is to be in relationship with the world,” we are not so much in the world as we are with the world (p. 3).

Freire (1970) suggested oppression, and power imbalances are the engine in the cycle of poverty, violence, and illiteracy that plagues much of the world. The poor do not see they can be anything but poor. In addition, because the only models the poor have available to them are from those who oppress, the poor tend to exploit
each other in their attempt to gain some measure of power (Freire & Macedo, 1985). This study uses the foundational elements of Freirian thought and the methodology of PAR to research the impact of the PIEAT training program in Champaigny, Nicaragua.

Reason (2005) stated there are also "four characteristics dimensions—worthwhile practical purposes, democracy and participation, many ways of knowing and emergent developmental form" (p. 2). The four characteristics provide a much grander range of criteria than that of the empirical research paradigm. PAR is research that goes beyond contributing to the knowledge and literature or even to develop theory it directly connects research and knowledge to the every day social action of people and their communities (Reason & Bradbury, 2001). "Approaching quality is to be aware of the choices that are made and their consequences" (p. 1).

For this study, PAR is defined as a systematic inquiry process, in collaboration with those affected by the issue being studied, for purposes of education and taking action or effecting change moving towards social justice. This study is guided by the needs and interests of those involved in the study and what the local people are willing and capable of doing at the specific point in time, in order to address inequities and constraints leading to the focused concern of the study. Some of the essential elements are: (a) the research facilitates learning among community participants about individual and collective resources for self-determination, (b) the research process applies the knowledge of community participants in the phases of
design, planning, implementation, interpretation, synthesis, evaluation, and the verification of conclusions, (c) there is flexibility for change in research focus as necessary, (d) the potential for individual and collective learning is reflected by the research process, and (e) community participants benefit from the research outcomes.

As reviewed in the previous chapters participatory action research is an ongoing cyclical spiral of data collection, reflection, analysis, and adjustments of the program. The project of this study was to create change in knowledge, attitudes, and behaviors of primary caregivers in the area of child rearing practices while moving their community towards social justice. The hoped benefit was to increase knowledge, empower primary caregivers (namely women and older children), increase the quality of wellbeing for poor children, increase the quality of child rearing practices in a rural community in an impoverished nation, and to bring about the practice of democratic principles in the household.

It was essential for me, a participatory action researcher to bring appropriate attitudes and skills while engaging with local groups. This was necessary if shared agendas and concerns of immediate relevance were to be discussed. Many marginalized groups may be suspicious of outside professionals. Therefore, I must approach the community with respect and value relevant for local practices, funds of knowledge, and community systems that the people in community may bring to the research. Additionally it was elemental for me to believe in the capacity of the local people’s abilities to analyze and find solutions to their problems and be able to create
change. Novak (1996) argued the extent to which researchers and professionals are able to do this can depend in large part, on where the researcher perceive her/himself to be in relation to poverty and injustice. Is the researcher part of the solution or part of the problem? “Recognizing that they can be part of the problem, rather than simply accepting that what they do invariably benefits the poor, is an important first step” (Novak, p. 91).

I see one of the benefits of using a participatory methodology is the empowerment of marginalized people, in this study primary caregivers of young children, the vast majority being women and children. This requires researchers to allot time to be with local people, to come to know the local people, to be known by the local people, and to be informed by the local people. Respect, humility, compassion, adaptability, and patience, emerging from a critical consciousness are some of the important attributes for researchers working with this methodology.

Participatory action research helps demystify research, so it is less likely to be regarded as solely the realm of the expert. The research becomes an activity that local groups can, and have a right to, contribute to. Participatory learning processes help engage local people in an active role of inquiry in which their shared experiences are used in a critical context to move towards guided change, moving towards social justice.

To think critically about power distribution in research is another important aspect of participatory action research. Questions to keep in mind during the research
process are: Who initiated the research? Who is likely to benefit from it? Who decided which problems or issues the research should focus on? Who funded it? Who was given access to resources such as information, money, skills, etc., and how these resources were distributed and to whom through the research process? Who is not allowed to make these decisions and why? These questions are about decision-making power. Using participatory action research gave room for the development of a critical understanding of the knowledge which emerged from dialogue in which all sources of knowledge both, formal and informal.

The Project and the Ontological Perspective

A project is typically a one-time activity with a defined set of goals, outputs, activities, and inputs. A primary reason to conduct research on projects is to gather information to gain greater understanding of the effect or impact the project had on the target population and other key stakeholders, and how effectively the project was implemented. The project typically has a clear beginning, middle, and end. The goals are linked to the desired effects and impacts on a target population with stated activities and inputs to carry out the activities that support the outputs or what is expected from the project. Before the project starts, it is assumed that there exists an identified need through a needs assessment. The project is then designed in response to the identified needs. A baseline is typically created at the start of the project. The services and activities are then carried out with various forms of regular monitoring and evaluation or assessment to ensure the project is on track. At about the mid point
of the project, a re-orientation and planning session is held to assess the project's strategies, linkages with the target population, and to reflect on the collected data and evidence of the project's effects. At the end of the project, the data is analyzed for project achievement and impact on the lives of the people it was designed to affect. The entire life of a project is referred to as the project cycle as the elements within the project are repeated regularly.

Information produced by a project informs people who have to make decisions concerning the project or related circumstances, and also provides descriptions for those who want to learn from the project. Those areas of a project that should be monitored and evaluated for the collection of information include the physical progress of the project, the decision making process of the project, the resource distribution, the distribution of project benefits, and the examination of the responses of the target population to the services and inputs provided by the project. Another area of the project that must be studied involves implementation problems. This effort allows for practical solutions to be recommended and applied, and is also helpful in determining any impact on the target population, especially on the quality of life as a direct result of the project interventions.

There is a range of approaches or methodologies research can utilize to collect and analyze data. Guba and Lincoln (1989) and Harman (1998) provided possible frameworks for choosing a methodology. They suggested that epistemological and ontological assumptions are primary factors in determining which methodology to
use. Ontology refers to a particular view of reality that one holds about a situation. The researcher’s orientation to the ontological perspectives determines the types of questions that get asked and the types of data that are viewed as valid and relevant for the research. The two more familiar ontological views include a researcher who has the least amount of impact on the object, or process being observed and a researcher who impacts the observations and the situation. This first view is referred to as materialistic monism and is consistent with a positivism philosophy (Harman). Quantitative research methods align most closely with this perspective.

A researcher who engages through mental construction of the situation thereby impacting the observer and the situation engages in a view of dualism (Harman, 1998). Dualism suggests that knowledge is constructed by individuals as they interact with knowledge found in the environment. These two views represent two end points on a continuum of ontological assumptions (Guba & Lincoln, 1989). Qualitative research methods align most closely with this perspective. Harman went on to describe another ontological view, that of transcendental monism. This view is closely associated with quantum physics in such a way to view reality that does not reduce things to a series of individual entities. The consciousness is the basis for which physical phenomena are the effect, (Bohm, 1980; Capra, 2002; Harman). A mixed method research perspective most closely aligns with this perspective (Creswell, 2003).
The epistemological assumptions refer to the relationship between what the researcher knows and what is known or being sought to be known. Guba and Lincoln (1989) stated that "adherents of the constructivist paradigm [assert] . . . that it is impossible to separate the inquirer from the inquired into" (p. 88). They suggested that in social inquiry the subjective knowledge produces a subjective relationship between elements of the inquiry. In constructivism, knowledge is actively built upon by prior knowledge and past experience with new information and skills. Learning and interpretation is an active process in which the research adds relevant knowledge to the cognitive webs that are assembled.

Oliga (1988) argued that not exploring methodological foundations does not "avoid methodological commitments: it only makes them uncritical and unreflexive" (p. 90). She suggested that in the social sciences the need for a well understood foundation for choosing a methodology is crucial. One form of research is not inherently better than another. Certain questions are best answered with certain methodologies. The guiding questions should determine the methodology.

My ontological perspective asserts that the experiential learning of the trainers of PIEAT was the result of various thoughts, beliefs, and consciousnesses of PIEAT and the primary caregivers living in Champaigny participating in the study. Each interpretation of reality was true of the situation for him or her, and this interpretation had worth and value.
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The Effect of an Early Childhood Caregiver Education Program on Primary Caregivers in Rural Nicaragua

Thesis directed by Professor Alan Davis

ABSTRACT

The study examined the effects of an early childhood intervention training program directed to primary caregivers in a rural village in northern Nicaragua. Participatory action research employed a collaborative cycle of reflection, replanning, and taking action process involving key players from the target population in each step of the study and furthering social change during the process. The study resulted in change within the setting as well as within the researcher. The early childhood training program to primary caregivers increased the overall physical and psychological well-being and the quality of care for young children under 8 years of age. The change in primary caregiver practice included an increase in the making of potable water, using alternative methods for discipline other than physical punishment, an increase of fruit and vegetables in the daily diet of children and their families, and a decrease in children under 8 years of age being left unattended during the day. Additionally, the research process increased the knowledge and skills of the primary caregivers in the community of study, resulting in greater empowerment of the primary caregivers and increased voice and leadership within their community.
Epistemologically speaking, I believe that knowledge is gained and created at a personal level. My assumptions also include the belief that external experience has impact on individuals; however each person creates his or her own interpretation of the situation. It is the relationship and interaction that gives us the knowledge we then use to interpret and create new knowledge, attitudes, and change our practices (Bohm, 1996). This was a guiding principle in the development of the training program used for this study.

I chose a mixed method participatory action research methodology for this study as it was imperative to include voices of the targeted population as well as my own to design, implement, and monitor and evaluate the project from start to finish. Appraisal, action, monitoring, and evaluation were conducted at the grassroots level and became more participatory and more diverse. In particular, PIEAT and the primary caregivers conducted their own monitoring and evaluation, using baselines and indicators created in collaboration to reflect their own concepts of well-being and their insights into causality, enhancing their understanding and ownership, and holding agencies to account.

Numerous articles and books have appeared over the past 15 years demonstrating that qualitative and quantitative methods can be integrated to better answer questions than using either approach alone. There does not need to exist a qualitative-quantitative dichotomy (Creswell, 2002, Tashakkori & Teddlie, 2003a). The field of mixed methodology is still evolving (Tashakkori & Teddlie, 2003b).
Effective researchers should use methods that most accurately reflect their purpose for conducting the research and that best answer their research questions. Many questions that quantitative researchers pose could be supported and expanded with a qualitative component, and many of the qualitative questions could be supported and expanded by quantitative data and implications.

Using a variety of methods to better address inquiry questions has become routine for applied social scientists, including many educational researchers and evaluators. In defense of this practice, a mixed methodology is emerging (Creswell, 2003; Tashakkori & Teddlie, 2003a), complete with controversies and challenges. One such controversy concerns the role of philosophical assumptions in methodological decisions. Green and Caracelli (1997) argued that a researcher’s assumptions about the social world and the knowledge of it inevitably influence decisions of practice; and so in mixed method framework, such influences should be consciously crafted for the intended purpose.

The training team in this participatory action research study created a semi-structured list of questions allowing for a mixture of qualitative and quantitative data to be collected. The output is usually in the form of a portrait of each individual or household. This was a relatively low cost way to collect both quantitative and qualitative data; it gave deeper insights into the lives of individual households. It also yielded preliminary impact information, including negative impacts, long before the end of the project.
The hope of the training project was to move the targeted population towards self actualization so they may have the knowledge and ability to make conscious decisions about moving their families and communities towards better health and social justice. Maslow (1971) posited that the final stage of psychological development comes when the individual feels self actualized, which is to be fully human and to realize one’s full potential. The training used early childhood care, development, and education as the foundation to increase health and move towards self actualization. Krishnamurti (1953) proposed “The function of education is to create human beings who are integrated and therefore intelligent... Intelligences is the capacity to perceive the essential, the what is; and to awaken this capacity, in oneself and in others” (p. 14). This perspective directly relates to the structure and formation of a democratic character. Self-actualizing people are democratic in a genuine sense. They are forthcoming regardless of class, education, political beliefs, age, or color. There exists a respect and practice in the idea that everyone is a potential contributor. Dewey (1916) confirmed that

A society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction for the different forms of associated life is insofar democratic. Such a society must have a type of education which gives individuals a personal interest in social relationships and control, and the habits of mind which secure social changes. (p. 148)

Thus, I assumed that our individual assumptions and interpretations were best utilized when shared and this process impacted the type of knowledge and experience
that was delivered through the project. For this to take place, it was essential at the onset of the study for the key players to contribute to the framing of the needs for their community, to the design of the project, to the monitoring and evaluation of the project, and to the interpretation of data and decisions made during the project. Such contributions best occur with action research methodology.

Participatory action research, in addition to being cyclical, involves local people or the target population as partners, or at least as active participants in the research process and in the planning and decision-making based on that research. Innovations in approach and methods, some which includes participatory action research, have contributed a new repertoire which has proved powerful and popular, when well used, in enabling poor people and communities to undertake their own appraisal, analysis and action (Cernea, 1991; Chambers, 1994, Johnson, 2008; Stringer, 1999). Participatory action research also relies more on qualitative data as it deals more with language than with numbers (Johnson, 2008; Reason & Bradbury, 2001; Stringer). Finally, action research involves a reflective practice or critical reflection upon the process and outcome of the research, this is considered an essential part of each research cycle (Johnson, 2008; Reason & Bradbury; Stringer).

Action research has emerged in recent years as a significant methodology for intervention, development and change within communities and groups. “It is action which is researched, changed and re-researched, within the research process by participants... it tries to be a genuinely democratic or non-coercive process whereby
those to be helped, determine the purposes and outcomes of their own inquiry” (Wadsworth, 1998, p. 15). Gramsci (1971) argued that all people are intellectuals and philosophers. “Organic intellectuals” is how he termed people who take their local knowledge from life experiences and use that knowledge to address changes and problems in society. Action researchers are really co-learners with the people they work with throughout the entire research process. This promotes the value that all people are intellectuals who develop intricate philosophies through lived experience. “Tensions between theory/practice, subject/object and knowledge/reason are resolved on the basis of a philosophy of life committed to social renovation for justice” (Fals-Borda, 2001, p. 27).

Participatory action research offers opportunity for people who have been traditionally left out of decision making and silent during much of their lives to engage in meaningful learning and project implementation in efforts to improve the quality of their lives and their community. The fundamental aim of action research is to improve practice rather than to produce knowledge. The production and utilization of knowledge is subordinate to, and conditioned by, this fundamental aim (Elliot, 1991).

The silenced are not just incidental to the curiosity of the researcher but are the masters of inquiry into the underlying causes of the events in their world. In this context research becomes a means of moving them beyond silence into a quest to proclaim the world (Freire, 1973). A collaboration between action researcher and the
client system is an essential part of action research. Susman and Evered (1978) characterized action research with six properties. The six properties state that action research is (a) future oriented, (b) collaborative, (c) implies system development, (d) generates theory grounded in action, (e) it is agnostic and, (f) it is situational.

Susman and Evered (1978) explained the first property; action research is future oriented, as dealing with the practical concern of people and is oriented toward creating a more desirable future for these peoples. Action research produces knowledge, which is used simultaneously to change the reality for those participating in it. Action research focuses on the utility of the future from the participants’ point of view.

Action research is the production of knowledge to guide practice, with the modification of a given reality occurring as part of the research process itself. The research, the production of knowledge, is carried out collaboratively and enhances the competencies of the key players or stakeholders. Knowledge is generated, used, tested and modified in the course of the action research project.

The psychologist Kurt Lewin is considered to be an important contributor to the development of both action research and experiential learning. Models of group dynamics developed by Lewin in the early-to-mid 1900s parallel the ideas of critical pedagogy put forth by Freire (1970) in response to traditional formal models of education where the "teacher" is the authority and stands at the front and "imparts"
information to the “students” that are passive recipients. Freire referred to this type of schooling as the “banking” method of teaching.

Criteria of action research in Lewin’s (1946, 1951) four-phase action research process include planning, fact-finding, execution, and reconnaissance in connected cycles. This cyclic process is a form of self-reflective inquiry. The participants and the researcher improve their own practice and increase the understanding of the situation through cycles of action and reflection. The cyclic activity provides for rigor and validity through the collection and interpretation of data within each cycle sustaining critiques and refining methods of reflection and action in each cycle. The process seeks out divergent data to challenge other data that has been previously collected.

The advocacy by Habermas’s (1973) therapeutic dialogue (i.e., talking with others) as the way to ensure higher quality reflection has influenced participatory action research. Habermas maintained that self-reflection alone can be misleading. The incorporation of others into reflection activities is imperative to understand the nature of circumstances more clearly. The social aspects of the action learning reinforce the development of new concepts about the specific problems of the community. This type of learning is participant led and offers a valuable learning opportunity (Webber & O’Hara, 1997). Participatory action research includes the researcher as an active participant rather than a passive observer.
In this study, my hope was to bring the idea of liberation and empowerment to the members of PIEAT and the target population through a shared working structure while engaging in the processes of conscientization (Freire, 1970). Using this process PIEAT members were better able to work in their communities through an interdependent framework transforming the lives of the people in the community as well as their own while engaging in the research process. The process of conscientization refers to the process of developing consciousness, "consciousness that is understood to have the power to transform reality" (Taylor, 1993 p. 52).

Conscientization is a word that Freire (1970) used to refer to the way marginalized people learn how not to rely on the outside of society for the solution to their challenges. Rather, to recognize that they do live on the inside, inside the structure, which has made them "beings for others." The transformation, or conscientization, is for people to become beings for themselves by transforming the structure of community to allow opportunity, which undermines the oppressor, or the structure of power that affects others to follow through obedience, force, or coercion. By using a methodology of action research, awareness of some of the barriers and mechanisms more established top-down models of societal structures bring to small organizations such as PIEAT and their communities and gave room for leadership opportunities to rise.

Participatory research allows the researcher to be collaborative and work interdependently with the participants and target population. Freire’s (1970) work
talked about the social construction of reality and the integration of theory and practice in everyday work and action for liberation. He referred to the bringing together of theory and practice as praxis. This framework can be used in research methodology for communities everywhere. It has been shown that this type of methodology is appropriate and effective for oppressed populations (Koss & Gubbels, 2000; McTaggart, 1997; Cornell University, 1962).

If participation is understood as taking part, sharing, and acting together, then people's participation is nothing less than the basic texture of social life. People have been participated in shaping their cultures, sharing task and responsibilities since the beginning of time. Much of the creation of culture has taken place in small groups where the individuals of the groups have interacted face to face and shared patterns of daily life. As industrialization production grew, social units grew in size and became more diversified and specialized. Regulations and outside enterprises developed and promoted patterns of socio-political behavior that did not necessarily benefit the individual but rather the group in power (Koss & Gubbels, 2000; Kremmis, & Wilkinson, 1998; McTaggart, 1997).

Participation is to mean more than just contributing for a specific activity in a given period of time. The rationale for participation as an end in itself is more complex. In the process of this action research, the poor and disadvantaged people end up organizing to overcome problems and to gain more control over their local environment and livelihood. For the purpose of this study, participation is a condition
by which local knowledge, skills, and resources are mobilized and used (Koss, &
Gubbels, 2000).

Contributions from the local population reduce the chances of mistakes as the
local people typically know about the unique properties of their environment by
bringing in diversified and relevant knowledge and skills an outsider may not have.
Partnerships with the local population were an overriding benefit for the target
population and increased the effectiveness of the initiative. Another major benefit
from local participation is the ability to obtain results with limited investments as
participation can bring to the project the full benefits of human and material resources
that could otherwise remain poorly utilized.

Finally, participation from local people helped create stronger and more
capable local associations and institutions through the promotion of non-paternalistic
practices promoting democracy and equity. Therefore, a unique assurance of the
sustainability of the initiatives was created because the people most directly
interested in the positive results of the initiatives were setting them up and investing
their own hopes and resources. Often times, during the participatory process local
people acquired new skills and gained knew knowledge during the opportunities of
organizing themselves (Arnstein, 1969). This leads to a gain in local equity, self-
reliance and building of group and community identity.

Lewin (1951) defined a field as “the totality of coexisting facts which are
conceived of as mutually interdependent” (p. 240). Individuals are seen to behave
differently according to the way in which tensions between perceptions of the self and of the environment are worked through. In a participatory research study the researcher acts interdependently with the members of the target community to create a group dynamic. This creates a situation where a person who learns to see how much her/his own fate depends upon the fate of her/his entire group will be ready and even eager to take over a fair share of responsibility for its welfare (Lewin, 1951). An intrinsic state of tension within group members stimulates or motivates movement toward the achievement of desired common goals (Johnson & Johnson, 1995). An interdependence in the goals of group members is created. In other words, if the group’s task is such that members of the group are dependent on each other for achievement, then a powerful dynamic is created (Belenky et al., 1991; Reason & Bradbury, 2001). When people share a common goal or objective they are more likely to act together to achieve it, even if they come together with different knowledge and experience. Kolb (1984) stated,

Thus the discovery was made that learning is best facilitated in an environment where there is dialectic tension and conflict between immediate, concrete experience and analytic detachment. By bringing together the immediate experiences of the trainees and the conceptual models of the staff in an open atmosphere where inputs from each perspective could challenge and stimulate the other, a learning environment occurred with remarkable vitality and creativity. (p. 10)

Participatory research has its origins in research with oppressed peoples in Latin America (Montero, 2000; Yeich, 1996) and continues to be used there (Lykes, 1996, 1997, 2001). The marginalized or oppressed people drive the research in
participatory action research and has an explicit focus on social change (Tolman & Brydon-Miller, 2000). Action research has its origins in North America and focuses on group and organization change. Lewin (1946) argued that action research could both generate new knowledge and solve social problems at the same time. Action research also involves key stakeholders as does participatory research. Recently, the two approaches have merged (Nelson, Ochocka, Griffin, & Lorn-Arm, 1998).

Participatory research has been defined as “a research approach which consists of the maximum participation of stakeholders, those whose lives are affected by the problem under study, in the systematic collection and analysis of information for the purpose of taking action and making change” (Nelson et al., p. 888). Two values that are central to participatory action research are empowerment and social justice.

Participatory action research is similar to traditional research in that both entail data collection, systematic inquiry, and problem solving. They differ in that traditional research focuses on what others are doing, seeking explanation, striving for knowledge, and being removed from the research. The research in participatory action research is personally involved and focuses how their action contributes to process and impact, continuous change, and empowerment. While the traditional researcher seeks to explain how programs function, the participatory action researcher is concerned with intervention for continuous program improvement. Traditional researchers seek to build a body of knowledge about programs and the target population; participatory action researchers try to foster self-determination and
change towards social justice. Traditional researchers typically collect data in controlled field studies settings; participatory action researchers collect data through multiple perspectives from the target population during the daily lives within the community.

As early as the 1950s, participatory action research has been used to study and emancipate people living in poverty. The researchers of the Vicos Project used a participatory approach that led community members to independence out of serfdom and onto owners of the hacienda. The activities of the Project centered on agriculture, education, health, and the transfer of power from the patrons to the local people. Instilling democracy and self-determination was one of the primary objectives of the Cornell Peru Project. The Project empowered and equipped people working in an exploited and impoverished hacienda as serfs in a colonial-style regime through the construction of a school educational programs, and the setting up of a local governance structure with the works of the land (Cornell University, 1962).

An assumption of participatory action research is that projects and the people involved with them need to have accurate and timely information to assess the value of what they are doing and have a way to take action on the plan to increase the value of the project's goals for the people involved. People, who are influenced by the projects as well as those who influence the project, that is, target communities, project staff, researcher, and donors of inputs are the major users of the information that is collected and analyzed in the project. They are the people who use the information
collected from the intervention of the project to find out if the project is relevant, efficient, and effective in relation to what its goals are. If the information is collected and analyzed but not available to the persons who need it, critical decisions about the project may not be made.

**Strengths and Limitations**

I recognize that by using action research there are some limitations. The replication of the implementation was made in response to shared interpretations, therefore it will be hard to replicate. The outcomes are locally based rather than universally based.

Full participation and empowerment are best developed in a democratic society. However, because of historical contexts a challenge to move away from hierarchical structures generally following the directions of their leaders proved difficult. The concept of stakeholder participation was quite alien to the women in the training program as well as the primary caregivers. The concept of self assertion which is required for stakeholder participation was at times countered with fear.

Participatory process require a lot of time and the results can take while to appear. This can tax the patience of some members and local people. Also, the attention on participatory processes can take the attention away from other activities and resources.

Outcomes are very difficult to predict from the outset, challenges are sizeable and achievements depend to a very large extent on researcher’s commitment,
creativity and imagination. Guba and Lincoln (1989) acknowledged the advantage that quantitative data offer where variable control is possible and warranted and they note the complementary nature of the two where applicable. However, they also suggest that qualitative data in applied, concrete real world situations is often most relevant. Benefits gained from using a participatory action research methodology because of its relevance to local people's operations in "real world" situations where participation produced the major source of knowledge and action produced improvement.

My presence was important to make the activity go. Why people think the way they do, and how their thoughts impact their patterns of behavior, are best understood in a collaborative undertaking where I am part of the community. Reason and Bradbury (2001) argued that a primary purpose of qualitative action research is to contribute through practical knowledge to the increased well-being of people and communities, economically, politically, psychologically, and spiritually; and to create a more equitable and sustainable relationship with the world of which we are all a part of. In addition, they suggested that qualitative research is a participatory, democratic process that is concerned with developing practical knowing in the pursuit of worthwhile human purposes. It is grounded in a participatory worldview that is believed to be emerging at this historical moment. I choose action research as the methodology for my study as I believe it is a method that brings forward why people think the way they do more strongly than solely a quantitative or qualitative approach.
It seems appropriate to use a more participatory type of methodology to collect the data.

Participatory action research obtains rich information and understanding of community life, people's attitudes, opinions, beliefs, and behaviors. The variety of collection methods used enables me to explore attitudes and sensitive topics. Observation, watching people in their own context and interacting in their own language is one of the important tools for the researcher to perfect (Cernea, 1991; Cuban & Hayes, 1996). I wrote the observations in field notes most often reported in a narrative format. The qualitative process was emergent and inductive. My role as researcher and participant was important, as I have become part of the community sharing, learning and experiencing the belief systems and cultural daily patterns of behavior through trusted relationships. Joseph Maxwell (2004) supported the role of context and process to explain relationships. The relationship between the outcome, context, and participants are contingent upon each other, they are not a fixed relationship and often cannot be controlled for. “For the social sciences, the social and cultural contexts of the phenomenon studied are crucial for understanding the operation of causal mechanisms,” (Maxwell, p. 6). Maxwell went on to suggest that qualitative research methods contribute to the investigation of causal processes, which include cultural influences and processes. Qualitative methods of inquiry further the investigation into why or how something is happening.
The confidentiality statement was read aloud and discussed with each primary caregiver in the study. Each member signed the statement of confidentiality as evidence of his or her understanding and willingness to participate (Appendix A). In addition, all PIEAT members signed and abided by the by laws which state that all information shared by anyone participating in the PIEAT program was confidential and will not be shared with anyone outside the PIEAT meetings.

Knowledge, Attitude, and Practice

Human behavior is determined primarily by people's knowledge, attitudes, and beliefs. People's knowledge, attitudes, and beliefs have their roots in the context or environment in which they live. A researcher should be aware of the local culture to help identify what may be causing the targeted human behavior or problem. For instance, we found reluctance for primary caregivers to give citrus fruits to children with colds and the flu. Their behavior was linked to a cultural belief that the acid in the citrus is difficult to digest therefore counteracts recovery from a cold or flu.

Recognizing that behaviors, attitudes, and practices also apply to people in power who have influence over systemic structures is important to note. These types of behavior can have a great deal of influence over the fulfillment of people's rights. While the training project may not be able to address specific power inequities, the project did not ignore the influence seeing that quite often underlying causes of problems can be traced to the denial of rights. Dialogue is a tool to help recognize people's behaviors, attitudes, and practices.
Dialogue is an important aspect of lifting up people. It is a cooperative act involving respect. The process is important and can be seen as enhancing community and leading community members to act in ways that make for justice and human growth. It is about gaining a deeper understanding of our self and others as well as making a difference. It is not about one person acting on another, but rather people working with each other. Dialogue is a form of education that, involves an inherently self-reflective, reflexive and non-dogmatic approach. It works to make space for the collective production of knowledge and insight, and builds on what emerges from the experiences of those actively participating. The richness of the approach lies; therefore, in the thought and implicit analysis that has gone into the design of the specific educational events or programs, and in the spontaneous, sometimes serendipitous, process it unfolds at a particular moment, yielding even more challenges and possibilities (Walters, & Manicom, 1996).

Often habits of ineffectiveness are rooted in our social conditioning. Festinger (1957) suggested the concept of dissonance and became concerned with communication and social influence. In trying to sort out why anxiety-provoking stories and experiences were listened to and accepted, he found these stories and experiences provided people with information that was consistent with the way they already felt. It is interesting to note that the inherent contradictions in the advocacy work of PIEAT for democratic voice, freedom from violence and oppressions, and hierarchical governance within the organization are the areas that are most difficult to
recognize and change within member’s individual patterns of behavior and the organization’s pattern of behavior.

Many believe individual behaviors are tied to the sense of personal worth established in early child rearing. These attitudes and behaviors have been wired from repetitive and predictable responses throughout their lives, starting at a very young age. Therefore behavior, which is at odds with a desired attitude, requires change. This change usually takes the form of altering the original attitude to conform more to the desired behavior. Accordingly, when people behave differently, they will also change their attitude about themselves. The members of PIEAT live in a society that does not permit the expression of feelings of children, men, and women in such a way that people look for solutions. To go from dependence to action, requires people to go through a process of reflection in order to see what affects them and figure out what to do in order to overcome it.

A reflective process is where an individual or group uses the reflection process as a map and compass to help navigate through unfamiliar territory. Routinely assessing whether we are on course to achieve our goals becomes a daily practice. Schon (1987) is credited as founder of the concept and described the practice of reflection as an in-action and an on-action practice in order to improve the individual or group activity. In participatory action research, this means that the researcher and stakeholders experiment with our own actions while the actions are being carried out and evaluated through verbalizing, writing, and appropriating
relevant knowledge about the actions from other sources. Reflective practice integrates or links thought and action with reflection. It is the practice of praxis, a term used by Freire (1970) and others (McLaughlin & Davidson, 1984) to emphasize the cycle of naming, reflection, and action which leads to transformation.

According to Schon (1988), reflective practice produces an unexpected outcome which can lead to the reshaping of the action while it is underway which increases the effectiveness and outcome of the activity. Reflection-in-action depends on monitoring data for insight as well as individual insight into how systems and behaviors are changing. Conditions are identified as direct causes of the problem and frequently exist because of certain human behaviors. Reflection-on-action takes place after the activity, when full attention can be given to analysis without the necessity for immediate action and when there is opportunity for the professional to receive assistance from others in analyzing the event. Project mid-term and final evaluations are a type of reflection-on-action in which project outcomes are compared to expectations.

The entire process, even if based on sound cause and effect logic, is dependent to some degree on an imperfect understanding of systems, human behavior, and the role of external influences, that is, culture. Based on such on-going checks, our reflective practice contributes to periodic re-design and implementation. All too often, learning has relied on external evaluators, and the identification of best practices from others than the targeted population.
Reflective practice is a powerful empowering process if it is allowed to nurture and grow in a project. Project members are encouraged to question the practical limits of project interventions, discuss results as they emerge in communities and institutions, and propose alternative strategies to improve the effectiveness of project services and “goods.” It is not only empowering to challenge staff to be reflective in their practice, it makes good development sense. In reflective practice, the relationships between outputs and effect changes are viewed as a dynamic process that takes constant adjustment. Reflective practice is easier said than done, and it requires not only individual discipline, but also effective support systems and practical tools. In project design, this discipline is guided by monitoring and evaluation plans but also relies on other systems that promote reflective practice (e.g., freedom of expression, collective reflection, etc.). Engaging in reflective practice takes time and effort but the rewards can be great.

People in Jalapa rarely talk of what they feel. They have learned envy or fear instead of solidarity and trust, and this creates a situation where many live in solitude with their experiences of pain, fear, blame, and sadness. One must also take into account the effects of reinforcement and environmental factors of the members. Someone may be cognitively and affectively motivated to a certain behavior, but physical and/or social environmental factors prevent the individual from engaging in the behavior. Therefore, effective action research can be a tool address how the program impacts the psychological and physical well-being of u8s as well as how to
change knowledge, attitudes, practices of community primary caregivers  
(Barraclough, van Buren, Gariazzo, Sundaram, & Utting, 1988).

Leadership

Lewin’s (1951) field theory claimed that the behavior of an individual is a function of both personality and environment. He demonstrated that behavior varied across time under different environmental forces. Lewin investigated different styles of leadership, autocratic, democratic, and laissez-faire. Autocratic and laissez-faire groups showed signs of low productivity and conflict. Democratic groups exhibited high productivity and low levels of conflict. Through his research he was able to demonstrate that the behaviors observed were not due to the personalities of the members but from the effects of the leadership style.

Within the target population adaptive and shared leadership skills were imparted to help the training team in decreasing the roots and effects of poverty and violence. Participation from community members was integrated in an adaptive and shared leadership style. In a technical or mechanical leadership structure, power is mandated for obedience, force, or coercion (Bolman & Deal, 1997; Kegan, 1994; Heifetz, 1994). Empowering participation of local community members means that communities, groups and individuals obtain greater control over the factors influencing their lives. Wenger (1998) described participation as “... the social experience of living in the world in terms of membership in social communities and active involvement in social enterprises” (p. 55).
Working with PIEAT members, it seems apparent that the structure of top-down leadership was habitually practiced and perceived as normal or even as a necessary part of their culture. I believe it was the reluctance of the members to recognize the ways in which the structure of leadership determined the social relations that curtailed their empowerment and growth as a group. The way in which they chose to work was little more than the idealization of the dominant thinking. The recognition that the limitations can be breached of their importance helped form an alternative form of leadership structure and power that worked towards positive change and empowerment (Dooley & Van de Ven, 1999).

Leaders who are critical to the success of any improvement effort must be committed, trained, and willing to practice in daily habits, which create an atmosphere of teamwork, innovation, and participation. The walk and talk of members need to be in alignment with each other (Duchon & Plowman, 2005). Currently, PIEAT’s vision talk includes democratic ideals, however, their walk seems to be impacted by their customary practices of top-down authoritarian leadership roles and societal structure. This was seen in the continual reliance of the more educated and economically advantaged person within the group making final decisions, even after the group has discussed an issue and solutions were created (Fletcher, 2004).
Power

Understanding the relationship between power and democracy is essential for the development of democracy in the organization of the training team PIEAT. Power is a key factor in social change that supports democracy and peace. Power is defined as the ability of someone or some structure affecting behavior of another.

Currently, members have stated there has been a significant increase in their participation; however, the redistribution of power still requires more transformation. PIEAT training team members are beginning to enter a conscious level of partnership and delegated power. Full participation was intrinsic to positive social and economic development. Economic inequalities alongside with social injustices devalue the worth and contribution of marginalized people. Through the lack of critical moral leadership the motivation required to transform their consciousness was stifled (Brookfield, 1987). It was knowledge of how to live critically that helped transform the power distribution and increase participation of the group, moving them up the ladder towards democracy (Belenky et al., 1991; Bolman & Deal, 1997; Freire, 1970; Kegan & Lahey, 2001). This process required members to challenge their fears and to acknowledge how fears has led them into a false consciousness that decreases their ability to participate as well as their strength of social agency (Freire).

During the research study, the PIEAT trainers were involved in every step from the design of the project, the implementation of the project, and the monitoring and evaluation processes. Decisions were made collectively during the entire study.
Several of the women were illiterate and had few prior opportunities to voice their story or their thoughts. "Everyone-researchers and 'subjects'-became collaborators, analyzing their situations and imagining alternatives. Discussions continued until a consensus was formed. Common dreams became a group's goals" (Belenky et al., 1991, p. 272).
CHAPTER 4
METHODOLOGY

In this chapter, a brief background of my work in Nicaragua and the project of study are followed by a description of the data collection process, a section on diagnostic assessment which includes succinct descriptions of prior assessments, the process of participatory action research assessment, and the limitations inherent in a participatory action research diagnostic assessment. Immediately following is a short discussion of the indicators. Next, I explain how diagnostic data and baseline data are used and clarify the difference between diagnostic data and baseline data. The chapter continues with a description of design, program trees, strengths, weaknesses, opportunities, and limitations (SWOL), the monitoring and evaluation process, the methods of data collection and analysis, mixed method utilizing qualitative and quantitative data, and limitations of the methodology.

My Work in Nicaragua

My initial work using an early childhood framework for creating change in primary caregivers in developing communities in Nicaragua began in 2002. During this time, in conjunction with the Ministry of Education, Ministry of Health, and UNICEF, I began working with local women in several villages on a community development plan to help answer the needs outlined in the national document.
After many discussions, it appeared the bleak situation of the children and families in Nicaragua could be addressed by both preventive action and curative interventions. The preventive actions included various ways of increasing the number of informed primary caregivers (mainly moms, older children, and other family members) through both non-formal and formal educational opportunities.

By means of round table discussions, the training team, PIEAT, explored possible alternative daily practices that would support improvements in the quality of health and the daily life of the children in Nicaragua. A focus on efforts to determine some of the root causes for the constraints and struggles in the lives of the young children in Nicaragua were also examined. Consensus emerged from discussions that educating primary caregivers on how to deal with problems and dispensing basic information in child development, education, health, and early childhood care were the most practical and cost-effective means of achieving the improvements sought. The need to provide this education throughout a community, despite the constraints of illiteracy and scarcity of resources, compelled us to consider a variety of alternative means. The use of home visits, story hours, songs, storytelling, drama, and community workshops were recognized as powerful tools for teaching (Belenky et al., 1991; Clinchy, Tarule, Belenky, & Goldberger, 1997). In addition, using established schools as community centers became paramount in achieving the degree
of accelerated change required for the community and nation’s successful pursuit of community development.

Utilizing existing community resources and local traditions have effectively helped researchers to become culturally sensitive and develop more appropriate avenues for enhancing the educational system (Belenky et al., 1991; Clinchy et al., 1997; Rogoff, 2003). Collaborating with people from the target population informed the researchers on how to best serve the poor majority in a more comprehensible, credible, affordable, and accessible form and helped the training team bring forward the voice of those being studied. Many times, the objects of study are the poor. Rarely are papers written by those being studied. The researchers, writing the papers, are seen as the solution. The challenges to bringing the voices of the poor forward are institutional, professional and personal, and demand deep change in the ways researchers think and behave. These changes require “questioning conventional concepts and realities, exploring and embracing a new paradigm, adopting a new professionalism, empowering the poor to analyze and express their reality, and then putting that reality first” (Chambers, 1995, p. 180). This new professionalism and its paradigm emphasize reversals, decentralization, local diversity and complexity, and empowerment.

Drawing on both literacy and non-literacy methods of teaching required the training team to learn training methods that have been successfully used in other impoverished nations (Freire, 1970; Illich, 1971; Kochendörfer-Lucius & Osner,
The team set aside time for experiential learning in the field so that they, directly, as people, could see, hear and understand the reality, of the primary caregivers, and then work to make it count. Experiential learning from the poor requires those who are powerful to step down, sit, listen and learn. This helped us to deal with the myriad of consequences that people living in poverty suffer and to change the attitude of those in positions of influence (Barton, Borrini-Feyerabend, de Sherbinin, & Warren, 1997).

The ECCDE training model developed during this study was called el Programa Integral Educando con Amor y Ternura, and is known as PIEAT. PIEAT is a program that was developed as a response to the Convention of the Rights of the Child and the needs outlined in the Estrategia Nacional de Educación Inicial 2004-2014 (2003) for children and families in the Jalapa Valley. The PIEAT training plan parallels the 10 year targets and goals set by the Ministry of Education, Ministry of the Family, Ministry of Health, and UNICEF. Early childhood education and the development of the child are used as a framework for the development of the family and community in the PIEAT program. Education of the young child is integrated into every facet of life engaging many people who live in the local community.

The overall design of PIEAT can be replicated; however, the details and emphasis within the program will vary from community to community depending on the specific needs and situations that arise from an initial local needs assessment. Information arising from community workshops and home visitations stimulated
discussion around various behavioral role models and daily patterns of behavior. A focus of the PIEAT program is to empower young children, youth, parents and other community members to effectively handle the diverse educational, health, and social issues they continually face. This was achieved when imparted knowledge, skills, and values proved to assist all of these people in making more informed and responsible choices around health, education, and behavior.

Adhering to UNICEF’s Convention of the Rights of the Child and Nicaragua’s 2004-2014 goals for children, the PIEAT training program proposes to (a) provide a framework using early childhood development for reducing the existing gap in education while introducing early childhood and health practices; (b) create self-sustaining networks using childcare centers to provide ongoing training, support, and research in the practical application and integration of non-formal and formal methods of education to improve and maintain the opportunities in early childhood care, education, and health practices of families and communities; (c) strengthen the health, education, well-being, self-esteem, and cultural identity of primary caregivers that have been routinely excluded from mainstream opportunities; and (d) strengthen participatory development strategies, thus contributing to the strengthening of democratic values, culture, and peace.

Specifically, in conjunction with the people of Jalapa, PIEAT members have worked to increase the capacity of Nicaraguan rural primary caregivers by increasing and changing their knowledge, attitudes, and daily practices in early childhood care
and health habits. To do this, PIEAT members have opened several community learning centers for children, from birth to 8 years of age, and their parents. Included in the center are a health clinic; a library for books and tools; classrooms for infants, toddlers, and preschoolers; and a classroom for first through third graders. Child-sized latrines and a kiosk with a hand-washing system for people to use upon entering are provided.

The community learning centers fulfill the need for childcare while parents are working and the workshops and basic literacy classes provide opportunities for the dissemination of knowledge and literacy skills for adults. The center’s program sees child development as a continuing process beginning during the prenatal period, and therefore includes classes for pregnant women as part of the childcare program. In addition, interactive opportunities for the center are designed and carried out by women in the villages who have participated in ongoing teacher/provider training programs.

The Methodology

The major epistemological stances and theoretical perspectives that have shaped this study suggest a methodology using critical inquiry and feministic postmodern participatory action research utilizing both qualitative and quantitative methods for the collection and analysis of data. The methodology of participatory action research has gained impact and recognition from the established social science circles in Latin America where special symposia on this method have been organized.
(Fals-Borda, 1985, 1987; Cornell University, 1962; Young & Padilla, 1990). The need to practice participatory methods of research to mobilize peasants for effective rural development efforts has also been recognized in Africa and Asia (Barton et al., 1997).

Participatory action research is a process of social research, collectivist nature and the reflective process leading to action are its driving value. The research itself is an action in and on existing situations. Situations are purposefully changed as a result during the process of research. The researcher recognizes the inevitable changes the project or intervention in the social situations within which it operates has and seeks to turn these to consciously applied effects. This participatory action research set out to explicitly study the impact of primary caregiver training on the quality of care of children under 8 years of age in order to change and improve the training to become more effective. This project emerged from the identified needs specified by the target population about an unsatisfactory situation, children under 8 years of age left home alone during the day while parents are working in the nearby tobacco fields.

The research process involved many cycles of participatory reflection on action, learning about action through the analysis of collected data, and then adapting practices within the project based on the new information which in turn becomes the subject of next cycle of reflection, analysis, and action. It seemed like every minute of every hour we saw participants absorbing the information and seeing or thinking in new ways because of their experience with the project. Many times, this lead to new
actions, related to the project, being taken on the spot. These too became the subject of further reflection and group self-understanding. Change did not happen at the end of the research, it happened throughout. The project changed shape the over time and sometimes quite unexpectedly,

Data Collection

One effective way to begin a participatory action research project is to collect initial data in areas of general concern and then to reflect and make a plan for change. The first data members of PIEAT and I collected were in the form of diagnostic data. The diagnostic data helped us identify needs or areas of needs in the targeted community. Once the implementation of the project was started data was collected on what happened during home visits and charlas. PIEAT and I met to reflect and analyze the data and then made adaptations building more refined plans for action within the scope of the project. The data collected during implementation gave information for two parts of the program. The first part included the issues and the understanding of the issues within the project community. The second part the data informed were the practices within PIEAT. A self-reflective spiral, thoughtfully and systematically took place each week during a process of group critique. Some of the guiding questions we used in the analysis of the data were: What has been achieved? How do we know that the project caused the results? Are the objectives being met? Is the project doing what the plans said it would do? Is the project well managed? Where does the project need improvement and how can it be done? Are the original
objectives still appropriate? What difference has the project made? Can the impact be improved? How can we help to prevent similar mistakes or to encourage positive approaches?

Data collected included the record keeping of accurate descriptions of what was happening in respect to the essential guiding questions being investigated, the life circumstances of the community, and the investigative process. In addition, records of my own judgments, reactions, and impressions about what was going on were also collected. In a participatory action project, the researcher is seeking to gain an understanding of people’s subjective experience giving accurate accounts of the context in which meanings are constructed. As the researcher, I also used the views of others to increase my understanding of their own interpretations and experiences.

The validation of the data was achieved by a variety of methods including triangulation of observations and interpretations, triangulation of field notes, participant confirmation during home visits and focus groups, and by pre and post informal surveys given during home visits and focus groups. The data was used not just for interpretation but also used to create change. Participatory action research is a living process, which changes both the researcher and the situation in which the researcher is acting.

Projects, and the people involved with the research, need to have accurate and timely information to assess the value of what they are doing. The collection of information, in combination with its analysis and use, was collectively referred to as
the oversight and evaluation component of the project. PIEAT members, and I used logical information systems that maintained and strengthened the project, and at the same time met many needs of the information users, including the target population. We did this by planning in advance and being specific with regard to the information needed. The tools for data collection included paper and pen for note taking, photos, informal surveys, focus groups, audio recordings, and video. Data collection was planned in advance with a commitment from the communities and other key players. A schedule with deadlines and descriptions of responsibilities related to information collection, analysis and presentation sensitized PIEAT members and the participants about the need for timeliness and accuracy. Guidelines were developed to help standardize how to collect and analyze information. Lastly, triangulate information sources and methods of collection were used, that is, we used more than one method/source for the same data item. We were consistent in collecting data by using repeatable methods, which showed patterns and trends. There was transparency about processes used as PIEAT and I clearly explained methods to the key players and participants used to obtain data and draw conclusions.

Target Population

For this project, the target community was Champaigny situated in Jalapa, Nicaragua. Community leaders from Champaigny, primary caregivers of Champaigny, children from Champaigny, and PIEAT members, including myself were the identified key players. In addition, I had two students who were staff
volunteers responsible for help in routinely collecting and managing data and
schedule needs.

The population of Champaigny, the village the study took place in, is
identified as very poor with the majority, if not all, of the families identified as living
in poverty, some in abject poverty. Within the study, there were 6 out of 63
households who did not have an adult working and had no income for the household
to live on. There were only two households that made over the average $2.75 a day
wage earned at the nearby tobacco farms. To compound the small pay, most of the
jobs in the tobacco industry are seasonal. I under-perceived the seasonal impact of
deprivation. Adverse factors for the poor often coincide during the off season for
work. These factors include shortage of food, scarcity of money, an increase in
depression, an increase in domestic violence, and diminished access to services.

Participants ranged from 16 years of age to 78 years of age, with an average
age of 29. When the project started, there were a total of 327 people in the 70
surveyed households, made up of 94 children under 8 years, 105 children between 8
and 17 years, and 128 adults 18 and older. The average household size was 4.6
people per household, consisting of 1.3 children under 8, 1.5 children between 8 and
17 years old, and 1.8 adults. Of the 105 children ages 8-17, 59 or 56% of them
attended school. A total of 115 participants could read, or an average of 1.6 people
per household. The national literacy rate, defined as citizens over 15 years old who
can read and write is 67.5%. An average of 1.2 people per household work outside the home in the tobacco industry.

The children and families living in Champaign encounter stress from many sources simultaneously. The stressors include poverty, violence, crime, neglect, depression, inadequate diet, and lack of stimulation. The multiple stressors act together to create cumulative effects on the caregivers and on the children and their development (Noble & MacFarlane, 2005). The more the PIEAT trainers learned about the impact of the stress on children and their families, the more they were able to implement approaches that decreased the strains on the caregiver and the children. PIEAT was able to assist the caregivers to build coping strategies and healthier responses to the unavoidable stresses in their lives.

Community members helped to clear suspicion, encourage other community members to support project activities, plan for the mobilization of community members, to integrate the project activities into village activities, and to understand the project within cultural and social norms.

The target population understood and informed the researcher and trainers about the benefits of the project, what contributions had been made, and how to maintain the support expected from the target population participants. This was realized through feedback loops integrated in the collection of information.

*Needs Assessment*
A diagnostic assessment in participatory action research is a way to establish baseline data for use in measuring change. The process of collecting this data can include processes such as planning techniques using social and environmental maps, calendars, daily activity profiles, and the making of matrices. The assessment includes the use of formative and summative data and analysis of what has been achieved thus far and where and how the training can be improved. This learning by doing is characteristic of PAR and a recognition that projects can evolve in response to changing circumstances and needs (Barton et al., 1997). The purpose of the study is entirely formative; however, summative data and analysis are used in the establishment of baseline data for measuring change. Typically summative information is used to decide whether to continue a project or not, in PAR formative focus is generally taken. The open-ended and repeating cycles of PAR mean that the assessment as other parts such as monitoring and evaluation are on-going and used to guide the future evolution of the project (Barton et al., 1997).

The formative aspects of a diagnostic assessment help identify the problems and contributing factors that a project is designed for. From this a set of indicators about the target population conditions are recorded. This becomes the baseline's data from which a program begins its interventions. When entering a community, the first activity PIEAT members engaged in was to visit each home or a sample of homes and collect diagnostic data. In large villages, PIEAT visits a percentage of the homes; in villages over 400 homes, a sample of at least 10% of the homes are visited. Typically
communities range from 40 to 600 homes, and the larger communities are those with over 100 homes. Diagnostic data is collected through an assessment process with local community members, which helps identify special needs or areas of needs within a specific community. A diagnostic is a systematic process of gathering and analyzing information needed for setting priorities and making decisions about project or program direction and the allocation of resources (Caldwell, 2002).

Before the study began both qualitative and quantitative demographic data were collected over a year’s time in Champaign and preliminary formative research was conducted on PIEAT’s existing programs in the Jalapa Valley. A core-training curriculum for formal and informal educational organizations around child development, citizenship education, peace education, leadership skills and strategies, networking, and shared resource planning have all been carried out over the past three years as part of the PIEAT program. Presently trained care providers work in five different communities throughout the Jalapa Valley.

For the training team’s purpose, the principal focus of the baseline data was on collecting and analyzing pre-intervention data relating to the indicators used in the research. Baseline assessments are typically done to establish benchmarks for the indicators and provide data on the initial status so that subsequent monitoring and evaluation can assess the effects and impacts of the project for the target population. The baseline also helps to assess the measurability of the selected indicators and can be used to fine-tune them for future follow-up. These baseline data collections for
this research were carried out after the project was designed but before starting the project interventions.

In a participatory action research study the baseline diagnostic is planned, designed, implemented and analyzed in ways that include participation from members of the target population and members of the training team (Barton et al., 1997; Herr & Anderson, 2005). During the life of a participatory action research project there are other times other than the start of a study when diagnostic assessments are taken. This continual process offered a summative use of the diagnostic assessment process for accountability and determining effectiveness (Worthen, Sanders, & Fitzpatrick, 2003).

Indicators, both direct and indirect are the criteria used to check whether proposed changes have occurred within a nine month period of time when primary caregivers are receiving the training program (Barton, 1997; Worthen et al., 2003). Some direct indicators define specific, verifiable criteria such as noting whether children wear shoes around the home. The indicators are designed to provide a standard against which to measure or assess throughout the project and to show the success or progress of a project against the stated targets. Targets are specific desired results within a specified time span (Barton; Worthen et al.). For example, the training team hopes to see 20% more children under the age of eight wearing shoes after knowledge about the relationship between parasites and bare feet have been explained to primary caregivers and after shoes have been provided to families.
Indirect indicators provide information on aspects which cannot be easily or accurately measured, such as the reduction of physical punishment in the home.

The initial diagnostic assessment began by asking the community's primary caregivers a series of questions. This assessment sought to determine how many people were living in the household (how many adults, how many children and their ages), if the adults worked in or outside the home, who cared for the young children during the day, and what was seen as the greatest challenges to providing for quality health care for the children and family. The information gathered was used to create a map of the community and to identify needs within the community, thus informing the design of the project. The design was based on a holistic analysis of the needs and rights of the target population, in this case small children and their families, and the underlying causes of their conditions of poverty and social injustice. Also examined were the opportunities and risks inherent in the potential interventions.

The diagnostic assessment and subsequent analysis were based upon a clear frame of reference and included an analysis of problems and their causes from a wide range of perspectives including institutional and individual analysis. Social analysis examined how needs and rights were related to characteristics such as gender, social class, and age. The analysis led us to an understanding of institutional capacity, power relationships, and the exercise of rights and responsibilities, as well as household level conditions. This process developed into a diagnostic evaluation
creating a baseline of information so that PIEAT members were able to record growth in the community attributed to their intervention.

Prior to the implementation of the project activities, a baseline was established for measuring change in the indicators of impact and effect by conducting a pilot study. The difference between diagnostic data and baseline data is that a diagnostic assessment gathers a little information about many conditions and is used to inform project design. A baseline study, on the other hand, focuses on measuring indicators of effect and impact required for a "before-and-after" comparison. Baseline studies can use qualitative as well as quantitative data, as long as they describe the initial situation with precision that can clearly and sufficiently measure changes over the life of the project. At the onset of the study, PIEAT trainers collected baseline data from each of the homes through an informal interview (Appendix B). PIEAT trainers also used a process during the collection of baseline data called Strengths, Weaknesses, Opportunities, and Limitations analysis (SWOL) in small focus groups (Barton et al., 1997; Davis-Case, Grove, & Apted, 1990; EuropeAid, 2005).

SWOL

A SWOL analysis is a powerful tool for group assessment about the issues of concern and is particularly effective for developing interventions or different potential courses of action. SWOL is based on a structured brainstorming session aimed at eliciting group perceptions of the positive factors or strengths, the negative factors or weaknesses, the possible improvements or opportunities, and the constraints or
limitations related to the issue. A better mutual understanding of the dynamic relations between communities and the possibilities available to them can be facilitated by a SWOL analysis (Barton et al., 1997; Davis-Case et al., 1990; EuropeAid, 2005).

Four steps were involved. First, a four column matrix was drafted on the whiteboard or on a flip-chart and the four categories were explained to participants. The four categories were phrased as key questions, to which the participants can respond. Second, the PIEAT facilitator started the brainstorming by asking the group a key question about strengths. Responses from the group were jotted down in the relevant column of the matrix. In the third step, for each strength, the related weaknesses, opportunities and limitations were also identified by the group and jotted down in the appropriate columns. The last step the participants had different opinions about an issue and at times contradictory statements were voiced. In such cases, the group worked toward a consensus, which required discussion at some length. Each entry was left on the final matrix only after achieving a group agreement.

The Logic Model

The logic model framework or logframe is a planning tool used to help design the study and create a detail map of the various parts of the study (Barton, 1997; Worthen et al., 2003; personal notes taken from work with David Silver, 2007). The main elements of the logframe illustrate the project's hierarchy of objectives and goals, its indicators for assessing and monitoring achievements of the objectives,
sources of the indicator information, and key assumptions outside the scope of the project that many influence its success (Barton, 1997; Worthen et al.; personal notes taken from work with David Silver, 2007). A logframe is constructed in a systematic and logical manner based on an analysis of information collected on constraints and opportunities for interventions to a specific problem. The logic model is referred to continuously throughout the life of a project. It is the most important document telling in detail what the project intends to achieve and how it intends to achieve the objectives (Worthen et al., 2003). I spent about 40 hours preparing the logframe for the study. This document was the most used document through the entire study. The logic model articulated a time line, procession of steps, and the various factors of contribution for each step. I found this process to be invaluable in terms of the guidance that was needed to stay on track during the study. In addition it offered a visual representation for the training team. The logic model was blown up and taped on the wall in the office during the study and referred to at almost every meeting.

The logic model framework was used as an organizing tool for this project. A logic model helps to identify possible project contributions resulting in an ultimate impact upon the lives of the target population, in this case primary caregivers with children under eight years of age. The initial ideas of the project were summarized in the logic model framework and showed how proposed interventions and anticipated outputs could result in defined effects and impact. The model specifies level of intervention (household, community, institutional, societal) and how the project could
ultimately contribute to sustainable impact for the specific target population. Key assumptions were also provided such as the stability of the economy and natural forces. The project was explicit about its process of participation and consultation and aimed for openness and transparency and the diagnostic interviews and baseline data impacted the initial logframe. During the study, the initial logframe ideas were shifted several times in response to the learning that took place within the training team. Stakeholders were understood to include target communities, partner organizations, government partners, and members of PIEAT. The interventions of the PIEAT team were coordinated and reinforced individually and together with the participating community to achieve sustainable impact.

The project design defined what the project wanted to achieve and continued to develop throughout the study as the objectives emerged from the participants. The goals were at the outcome level, intermediary impact or at least effect, rather than output level. The project final goal was clearly and explicitly linked to, and significantly contributed to, the higher-level goals of the program as well as its strategic goals. Program goals addressed underlying causes of poverty and social injustices, and their impact of increasing the psychological and physical well-being of u8's was ultimately manifested at the household or individual level. Interventions were based upon current best practice and on an understanding of the social context and the needs, rights and responsibilities of the children and their families. The project was designed in a way that was likely to make a significant and positive
difference, with minimal undesired social or environmental consequences.

Interventions made reference to technical or sectoral experience or standards developed by PIEAT trainers to demonstrate the viability of their approach.

The parts of the logic model evaluation framework include outcomes, inputs, outputs (activities), purpose, and goals. Outcomes or results often refer to all that happens as a consequence of a project’s interventions (Worthen et al., 2003). This concept was divided into more specific terms of effect and impact. Inputs refer to the resources needed by a project to implement activities. These included the human and financial resources, physical facilities, equipment, and materials in-kind contributions. Inputs only occur during the life of a project. Inputs are one of the items routinely tracked in project monitoring, especially for cost-effectiveness and accountability. Outputs are the products that the project produces. They are direct results of the project activities, that is, generated through the project and within project control. They are usually expressed numerically and have a time frame. Outputs occur within the life of the project and are among the items assessed in routine monitoring. Monitoring indicators of outputs allow projects to track project efficiency, that is, achievements versus expected goals. Project outputs may refer to: (a) the results of training, such as the number of caregivers trained in child development and child rearing strategies, this can include the assessment in knowledge, attitude, and practice; (b) capacity building such as the number of PIEAT members trained, schools built, committee established; (c) service outputs, such as an
increase in the number of project locations; and (d) service utilization, such as the number of people who attended the workshops, or the number of children who go to school.

Effects refer to target population responses, changes in behavior, or improvements in system conditions such as access to quality of resources that result from the use of services provided by the project (Worthen et al., 2003). Project effects describe results in the target populations that happen at the household level as a consequence of some degree of exposure to project interventions. These changes provide beneficiaries with the necessary tools to bring about sustainable improvements in their well-being. Effects can be positive or negative. People who act as a result of project interventions may or may not be aware of the project, these are referred to as secondary beneficiaries.

Strengths and weaknesses of SWOL. The technique stresses consideration of different sides, positive and negative, of the issues. It therefore helped to set the basis for negotiations and trade-offs. The strengths of SWOL include (a) a way to build a consensus within the group and to prepare the group to discuss with others in the community, (b) promotion of group creativeness, and (c) the linking of perceptions of things as they are with realistic expectations about how things could be. The weaknesses include the fact that at times some group members dominated the discussion, and summarizing the long discussions in short statements required good synthesizing skills which took quite a bit of practice from PIEAT before done well.
Community participatory SWOL analysis was a powerful tool for promoting an open discussion of the positive and negative sides of a problem by linking past experience with desired improvements to be achieved in the near future. The use of this technique was especially effective to promote a critical understanding of the perceived quality of the services to be provided.

**Design**

Part of the field work is to capture information, organize it, and to synthesize the findings. In general, this is quite time consuming and the same amount of time is needed for these types of activities as is given for each day of information collection. An iterative process, rather than discrete stages of information collection, data entry, and analysis, apart seemed to work best. For this study a household level analysis was completed. The process included the identification of livelihood indicators and putting them into household livelihood categories. A livelihood indicator is shown by measures of health, nutrition, education, and economic security or job security. This was collected by household interviews collecting information on location, names of households, economic, social, and environmental household wellbeing; and the vulnerabilities, stresses, and coping behaviors of the households.

The analysis and synthesis phase of project design was used for organizing information collected during the diagnostic assessment and extracting meaning from this information. We often have more information than we can incorporate. Therefore, we used program trees to help us to organize the information. Problem
trees help find causal factors. A causal analysis, a systematic process used to
determine causes and consequences of a problem and to link them based on cause
effect relationships, can be used to help develop strategies of the project. Causal
analysis is used to discover factors that lead to constraints and to bring project designs
closer to the real needs of target population. Needs do not exist in a vacuum, needs
exist within systems, whether the systems are educational, social, political, familial,
governmental, or business. Anything that affects one part of the system also directly
or indirectly affects other parts of the system. Problem trees reflect this systems-
based approach. The Pareto Principle states that only a few causal streams that lead
to a problem are responsible for the bulk of the problem (Juran & Gryna, 1988).

Other techniques beside problem trees were used. One process included
group brainstorming possible causes, followed by a discussion and prioritization of
the possible causes. The problem tree creates a visual and brings the group into more
depth of the system aspects of contributing causal factors.

Problem Tree for the Study

After the baseline data was collected the training team met with the primary
caregivers and crafted a problem tree. Building a tree of problems, causes, and effects
is a simple and widely comprehensible visual technique for groups. It enabled the
group, even those who are illiterate, to summarize the findings of the participatory
appraisal and helped orient the participants toward actions based on those findings. It
is important to note that the lack of formal education does not mean lack of analytical
thinking; however to ensure participation for everyone special attention to visual methods was given for supporting all participants to express their own point of view. About 80% of the participants were illiterate.

The activity started by holding a meeting with the participants and brainstorming. This meeting was aimed at reaching a consensus within the group on what were the main issues contributing to the problem. Different people interpreted the problems, causes, and effects in different ways. Posing a key question such as, "What is showing up as the root causes in our village with regards to unattended children during the day?" often started the process. This strategy was more appropriate as an entry point than starting with preconceived definitions for the three analytical categories (i.e., cause, problem, effect). Definitions eventually became necessary and were agreed upon at a later stage in the problem tree work.

Once the main causes were identified, I or a member of the PIEAT trainers started to write or draw them on the roots of a large outlined sketch of a tree. The outline typically was on a whiteboard or a flip-chart. The tree showed its trunk, roots and branches. The problem was written on the trunk, the roots represented the causes of the problem, and the branches represented the consequences. Further brainstorming was then carried out among the participants to list their perceptions about causes and effects and we plotted them on the tree diagram. Participants were asked to consider perpetuating and constraining practices, that is, obstacles
underneath the problems that were brought about by some form of human behavior or activity.

During this exercise, re-negotiations took place within the group about what the main causes of the problem were and what were some possible solutions. When this happened modifications were jotted on the diagram. Once the group had made a final agreement about the main issues and a discussion about causes and effects took place; external inputs were introduced and discussed with the group. In this activity, it was important to keep the discussion within the limits of the participants’ actual understanding of the problem. Figure 4.1 is an example of one of the problem trees, modified to put into this paper.

Oversight of the Project and Ongoing Evaluation

The oversight and evaluation process used for the Nicaraguan ECCDE community development project utilized a process of mixed method data collection incorporating both quantitative and qualitative data and feedback from participatory assessments which were taken through every phase of the project. The participatory action research was based on giving project participants shared control over decision-making, including decisions on appropriate criteria and indicators to evaluate performance of the services provided in the project. Thus, the process of oversight included inquiry and weekly reflection days to take a look at what took place during the week and to decide what adjustments were needed before proceeding into the following week.
Figure 4.1. Problems around malnutrition in children.
Oversight of the training program through each of the study's stages was an important part of the research. This process included the practice of routinely collecting, storing, analyzing, and reporting program information, and provided the information necessary to evaluate the progress of the program, identify patterns and/or deviations, trends, schedules, timing, and how we were proceeding moving towards program outcomes. The information gained through the monitoring process supported decisions made during the implementation stages of the project by informing target population, project staff, and other stakeholders of specific knowledge acquired as well as facts and data collected about the training. Decisions made throughout the project cycle helped increase outcomes and reduce extra input costs. Continuous assessment of project implementation in relation to the original logical model provided valuable information to key players involved in project implementation by identifying potential successes and problems that helped facilitate timely adjustments.

Several areas that were important to monitor were how the strategies and activities continued to be relevant or not to the target population and the ongoing effect and impacts of the project as a result of responses from target population participants and other key players. The training team also monitored the affects of the assumptions and risks to the project, including policy issues that affected the capacity or ability of the project to continue as well as the expenditures and distribution of the inputs or resources, and lastly, the delivery of the project activities.
The monitoring and evaluation plan was system-based and taken from the logical framework created during the design phase. This helped to ensure the collection of baseline, monitoring, and final evaluation data, and anticipated how the information was used for decision making. The monitoring and evaluation plan provided sufficient detail to clearly identify evaluation design, sources of data, means of measurement, schedule for measurement, data processing and analysis, dissemination of information to and utilization by PIEAT trainers, and by the participating families. The information gained in the monitoring process was useful in promoting reflective practice for management decision-making and for adapting project approaches and strategies. The plan incorporated methods to measure risks and assumptions and to track unintended effects.

This participatory action research method used complementary quantitative and qualitative components. Mixed methods designs involve the collection, analysis and integration of quantitative and qualitative data in a single or multiphase study (Creswell, 2003; Hanson, Creswell, Plano Clark, & Petska, 2005). Mixed methods design enriches the results in ways that using only one collection method does not allow (Creswell, 2003) and develops a deeper understanding of the phenomenon of underlying behaviors. Using a mixed method design parallels the intrinsic value of participatory action research by allowing modifications during the study which are based on participant feedback. The use of a variety of methods to better address
inquiry questions has become routine for applied social scientists, including many educational researchers and evaluators (Creswell, 2003).

During the diagnostic data collection, PIEAT members attended class three times a week for a minimum of 12 hours over a 6 month period. This commitment added up to over 248 hours of class time. During this 6 month period, PIEAT members committed to 300 hours of direct-contact work in their communities. Several weeks into the classes and after lengthy discussions of the community diagnostic assessments, the PIEAT training team decided to focus the program’s attention on four areas: (a) teaching, by providing learning opportunities for primary caregivers including parents, teachers, young women, and community leaders in early childhood education, child development, leadership, and democracy; (b) health-by teaching and modeling ways to keep children healthy and to keep them safe from neglect and abuse through a house to house visitation program and community workshops; (c) childcare-by providing childcare opportunities for parents while they are at work, at school, or crisis family situations the opening of day care centers and childcare homes; and (d)-community services by helping the communities organize their limited resources to help ensure parents and children have the necessary tools and skills needed to provide a nurturing stimulating environment for their families.

Each week the PIEAT team held a 5 hour meeting to go over the data that had been collected throughout the week. The training members reflected on the activities and findings, and discussed concerns or issues that developed. During the reflection,
a plan was created for the following work week. Additionally, preparation was made for the upcoming charlas and home visits. Charla, translated from Spanish to English means chat. The term refers to workshops given to a small number of people, typically between 6 and 10, which focus on a specific theme and encourages learning through participatory dialogue and sharing of information between people in the local community. Preparation for the charlas and home visits included gathering information needed for specific themes; making any posters or visual aids necessary for games and activities; collecting needed resources such as markers and flip charts; and confirming with households about the location, time, and day of the charla.

Field notes were used as the source of data for the meetings. At least 2 training members took notes during the charlas. The notes were compared with the previous meeting at the onset of the new meeting. This helped ensure our unity in understanding. Attendance was taken at each meeting and at each charla. This was kept in an acta, or notebook or journal in the office of the PIEAT trainers. The office of PIEAT is located at the front of my home which contains a locked room and cabinet where the data was kept.

Triangulation was used to validate data. Triangulation utilizes multiple reference points. Mixed method design takes advantage of both qualitative and quantitative offerings (Greene & Caracelli, 2003). A core characteristic of mixed methods research is the integration of data or findings from different components of a study. The knowledge I was able to produce was relative to the extent to which I was
able to exploit the potential for integration of qualitative study and quantitative data (O'Cathain, Murphy, & Nicholl, 2007).

The qualitative process that I used included conducting observations and interviews to identify leadership styles, daily habits, and historical references that created or supported the styles and habits of the training members of PIEAT. It was critical to recognize how the impact of power and privilege affected interactions with others and supported or created the underlying leadership structure. Furthermore, an understanding of the cultural context and ways in which socialization occurs must be had. This was achieved by being part of the daily patterns of behavior with the target population. Shared reflection and dialogue was also used to uncover and engage in the existing structures of power and privilege.

Observation was be used to gather information about physical settings, events, and/or people. The data from observations was very direct, and can give information that was unobtainable through interview methods. It was used to describe what conditions exist, rather than what people say or think they are. Observations can be used very effectively for cross checking, or triangulation, on information obtained through the interviews and other sources. It was a good idea to confirm the interpretation of observation findings with other methods to lower the risk that I may misinterpret events, behaviors, and physical settings if there was no other validation. I do have an on going relationship with the PIEAT team, I am considered a member,
and I do bring with me past informal observations, conversations, and activities among members as part of my bias.

A potential weakness of observation was the effect I have on the observed activity or people. When people are conscious of being observed they may alter their behavior. My interests, expectations, past experience, and objectives with the observation may also influence what I observe. I used an observation form after the interview form to record the state of mind of the respondent I observed (Appendix C).

The most difficult aspect of writing observation notes was to simultaneously write the notes and be part of the conversation. It was not really feasible in most circumstances to attend continuously to all of the possible types of incoming information. As such, I have created a specific set of objectives to look for.

Presently we are using a variety of qualitative research methods including collecting data through semi-structured interviews. Interviews are conducted at the beginning and at the end to 55 primary caregivers in the community receiving the trainings and 55 primary caregivers who are not receiving the trainings. The interviews are conducted by the trainers, members of PIEAT, myself, and staff.

Data was collected from the interviews; conversations with the families who participated in the home visits; conversations from people who had attended community charlas; my participant observations, daily field notes, and field observations, the training staff's field notes and records; focus group interviews and
discussions from the charla groups; and antidotal records. The information from this study should be considered suggestive and exploratory and not definitive in nature.

Information and responses from a particular respondent were kept together and put into a community file. The number of households participating increased during the study due to the momentum and impact of the program. The information was also filed based on the research questions. Cross-referencing made data analysis more manageable. Similarities and differences were identified in order to understand the norm and general principles associated with people's understanding of the societies, community relationships, relationships within between community members, program development and sustainability, and leadership development.

The PIEAT training group held analytical discussion groups about the findings. The discussions focused on the validity of the findings as well as the interpretation and prevalence. When new issues were identified the significance, constraints, and recommendations were explored. In addition, focus group discussions were held within the community throughout the program to discuss the validity and reliability of the interpretation PIEAT made of the findings. The process of data analysis was continued. The process started at the onset during baseline collection and was refined during the process of the study. There were times that the organization of data took a lot more time that the reporting, analysis, and summary especially when electricity was not available and everything had to be done by hand and sorted into piles around the office.
Home Visitation Program

During the initial community meetings, PIEAT trainers visited the participants' homes. The first and sometimes second visits were to collect the baseline data. Further visits were used for PIEAT trainers to share additional information to help with identified needs within the specific household. Each household received a minimum of eight visits. Depending on the severity of needs, the household may have received up to 14 home visits. The home visitation program was the foundation of knowledge building.

The PIEAT training team broke into pairs to work and give the home visits. There were ten members, therefore five pairs. Four pairs visited approximately five homes a day for 4 days a week. The initial visit took about 90-20 minutes, each visit after ranged from 30-90 minutes each. PIEAT trainers tried to reach all 55 homes each week, however, due to circumstances beyond their control; many times they were unable to reach all of the homes each week. The fifth pair attended the educational center construction site and worked along side the community. Of note is the fact that 2 members of the PIEAT training team were from the community of study, Champaigny.

Workshop Series or Charlas

Three weeks after the home visitation program started, focus groups were formed based on shared needs. For instance, PIEAT trainers found eight households who have identified malnutrition as a key problem in their home. These eight
families formed a focus group and attended a series of workshops which gave information and skills to deal with malnutrition. Each series consisted of four 2 hour workshops, once a week for 1 month. This not only increased knowledge about the topic, but also built camaraderie among the participants and created a support group for people who share similar problems and situations. This step is integral in the development of community and to move towards a more democratic based community practice. The charlas are typically given on Saturday and Sunday afternoons. The specific times and day were determined by the participating households schedule.

Construction of an Educational Center

The last major activity was the participation in the construction of an educational center. Money had been raised and the entire community of Champaigny organized to construct an educational center. Meetings, already taken place, developed a work schedule and time line for the construction. The school is now finished opened and has more than 100 student attending from ages 6 months to 11 years old (January, 2008). Participants from the study group were asked to participate in the construction. Their participation created opportunity for ownership, and therefore greater sustainability in the care and use of the center in the future. In addition, continued weekly meetings were held to discuss problems, concerns, and other issues that participating households may have discussed. During the meeting, time for reflection as well as developing plans of action to address the concerns was
provided. The use of SWOL and Problem Trees were integrated the community meetings. This continuity in organization helped develop a closer and more unified community working towards the reduction of poverty and the use of democratic principles. Two members of the PIEAT training team attended the construction site each day during the construction period. The workday on the construction site had two shifts, each was about 5 hours long. The first started at 7:00 a.m. and ended around noon, and the second started at noon and ended around 5:00. The work day corresponded to the school schedule for the older children who were attending school in the nearby community. Each household was compensated with food rations of rice, beans, corn meal, and oil for their labor. This was a higher dollar value than they would earn working 6 days a week for 10 hours a day at the nearby tobacco fields.

Qualitative Aspects

One of the most important sources of information for monitoring and evaluating rural development projects are the qualitative interviews. Qualitative interviews with project participants and other key informants help in understanding the complex ecological, sociological, and cultural situations with which the project must deal. They can also provide an in-depth understanding of the perspectives, attitudes, and behavior patterns of the target population, which will not be fully captured by other modes of data gathering. Moreover, qualitative interviews can be used to generate hypotheses and propositions, which can then be tested on a wider
population using a more structured questionnaire. The qualitative interviews I used were topic-focused, and semi-structured open ended. The guiding questions are found in Appendix B.

The qualitative methods used in this study are considered to yield data high in validity but low in reliability and generalizability. The information from this study should be considered suggestive and exploratory and not definitive in nature. The analysis of the narrative goes through several iterations to reach consensus with the members of PIEAT. I analyzed the data both in critical and self-reflective ways.

Triangulation, alternative data gathering methods to validate the accuracy and interpretation of the observations. As stated by Lincoln and Guba in the article in The Point of Triangulation (Thurmond, 2001, p. 283) “Triangulation of data is crucially important in naturalistic studies. . . . No single item of information should ever be given serious consideration unless it can be triangulated.” To ensure actual involvement of every participant and proper interchange of ideas, the design of the workshop should be based on a balanced mix of small group activities and large group discussions. A possible list of activities to be carried out in order to achieve the workshop objectives, sharing information and elaborating a joint plan was made.

Data was collected and analyzed for the regular and period assessment of the project’s relevance, performance, efficiency, and impact of the training program to primary caregivers and its stated objectives. The oversight of the project included the on-going collection and analysis of data within the project about its progress. The
PIEAT team as well as the participants reviewed the data periodically; this is an important step to ensure the development of the project throughout the research. The principal source of information was informal interviews and observations of members from the target population, the data also included data from routine records collected by the PIEAT team. The data about project effects and impacts were mostly qualitatively descriptive in nature.

The qualitative data was collected by the PIEAT team during home visits through observations or information given in the informal interviews and conversations with the primary caregiver. This information was aggregated by team members by the number of household visits. For example, for household #33, we observed for the first time the children brushing their teeth, and mom reported they are now brushing their teeth three times a day. The team would then adjust the household hygiene level. Other items included, but the list is not limited to, are how many vegetables or food bearing trees are growing on the patio, if the children were wearing shoes, and if primary caregiver was telling stories or singing songs.

The nature of qualitative description gave information about project objectives and also any unanticipated effects or impacts or unwanted side effects, negative consequences of the project. During the mid-term evaluation retreat the team focused on analyzing the unanticipated effects. The analysis of data used both formative and summative assessments.
Formative and summative assessments are two types of assessment that have been used in research. Torrance and Pryor (1998) defined summative assessment as assessment that occurs at the end to measure and communicate performance for purposes of quality and accountability. Formative assessment occurs during the process with the express purpose of improving the process and learning or outcomes. Typically, formative assessment techniques provide information to researchers about participant understanding and topics before summative assessment takes place. During the participatory action research process both formative and summative assessments were part of the reflection, analysis, and action cycle. The baseline assessment was done before project interventions but after the project start-up. The mid-term assessment done by the PIEAT team focused on performance of the team, organizational capacity, and achievement of the project thus far. In addition to the on-going assessment cycle there was a final assessment of the effects and impacts of the project.

Potential limitations of the baseline study could be the collection of excessive and nonspecific information that can be too overwhelming to ever be used. Collecting data related to a single point in time, for example during a specific season, is also a limitation in that the data could look differently during different times in the year.
Limitations and Strengths

The selection process was one limitation of the study. The community was selected by an initial diagnostic and need assessment process by PEIAT and the study was limited to one community. Therefore, it was difficult to generalize the results to a larger population. However, I believe the lessons learned are applicable to other settings in impoverished communities and can serve as a guide for further investigation and research in the area.

Another limitation was the similar geographic, demographic and socially operated proximity of the village. Neighborhood boundaries can often be difficult to draw because there is little consensus about what constitutes a village. Most definitions of village imply a degree of social cohesion that results from shared institutions and space, but it is also widely accepted that villages differ in their levels of community social organization and integration (Lyon, 1987). Further, it seemed that neighborhoods that were the least cohesive and organized were the poorest community environments for participatory development. However, there were some significant situations that proved to be helpful in understanding the impacts of participatory development.

A further limitation was the fact I am not a native speaker or member of the community which limited my entry as a member of the community. However, I have been working in the area for 24 years and have established deep relationships with people throughout the valley. People recognize me, have developed trust in me and
are willing to open up to me to share information on a more sincere and genuine level. Living in the villages has allowed me to see their culture from their perspective, which furthers my understanding and knowledge of the impact of participatory development.

Unfortunately, the amount of time I can spend participating on a continual was is limited due to the fact I have children whose father lives in the United States and only will allow a finite amount of time for the children to be in Nicaragua each year. The amount of time I spent in the villages at any one time ranged from 2 weeks to 7 months. I typically visited three to four times a year averaging 8 to 15 weeks per year. However, initially when the study began, I lived in the one of the villages for 6 months giving training on early childhood development and leadership to PIEAT members and developed the participatory community development program. This initial contact I believe was a critical ingredient to building trust and deep relationships with participants, community members, and respondents. During the rest of the study, I spent a 9 week period and three 2 week periods over the 14 months of the study.

Lastly, the local PIEAT trainers have limited technical and computer skills and therefore limited the efficiency of the recording of data, not a consistent funding or donor source was available, and the time consuming requirements of qualitative data collection were enormous. People in the PIEAT team do not have consistent access to computers and spreadsheets, so the common method of managing and
storing data was hand written or drawn maps, diagrams, and field notebooks. I brought a computer to Nicaragua; however, even with this access to a computer, PIEAT members had limited knowledge using the software programs. Additionally, the electrical power and water availability was cut to 7:00 pm to 9:30 pm each day due to unforeseen country wide electrical shortages.

The strengths of the Nicaraguan ECCDE community development project were that information was collected regularly through a well-established reporting system. Uniform formats and reporting forms in the project helped facilitate data collection. The staff resources for cyclical monitoring and evaluation were available, information was disseminated to the community and other key players, there was a shared vision within the trainers and participants of the target population on the needs and importance of the project and the quality of information collected. The information collected was put to use in a timely manner, usually within a week of collection, and other members of the community helped provide the project intervention with adjustments that increased the outputs and success of reaching goals.
CHAPTER 5

RESULTS

The purpose of this study was to examine the process and effects of an early childhood intervention training program. In the tradition of participatory action research, the study involved a collaborative cycle of reflection, re-planning, and taking action involving key players from the target population in each step and furthering social change during the process. Because both the process of inquiry and the impacts of the project on participating families are of equal importance to the study and are best understood in relationship to one another this chapter is organized first around activities (home visits, charlas, storytelling sessions, and planning meetings of project leaders) that served both to gather information and to deliver information through which change took place.

For this study, the PIEAT training program has examined the effects of increasing the knowledge of primary caregivers in the topics of child development and preventative health and hygiene practices through the dissemination of knowledge and skills using two main delivery strategies. The first and by far the most important and effective part of the training was the home visit program; the second most important was the charla or community workshop program. This study found, which supports the findings of Landy (2002), that when training on child
development and evidence-based practice is provided to primary care givers the quality of young children’s and their family’s lives is enhanced.

Home Visits

Home visits were foundational to the training program. PIEAT used home visits initially to interact with community members while collecting baseline data in the first informal interviews and as a way to collect information. Later during the implementation of the training home visits provided a means of disseminating information, a venue for PIEAT trainers to model new practices, and to document the integration of new practices into family routines.

In order to achieve the necessary behavior change to increase the well-being of young children, many common practices had to be modified, and these modifications needed to be made within the particular constraints of each household. This necessitated multiple personal visits to the households on the part of the trainers, who continually developed special skills for communication and counseling. Ideally, homes would be visited until the new behaviors are incorporated. In some homes, many visits were necessary. However, the number of visits that PIEAT could carry out was limited by the small number of trainers and funds it had available for training and support.

The home visits were fundamental for effective dissemination of information and skills along with building rapport and trust with the primary caregivers. PIEAT trainers spend a great deal of time during home visits listening to the concerns and
ideas of the primary caregivers. By listening to and reflecting with the primary caregivers' stories and concerns PIEAT trainers began to develop trusting relationships with the caregivers. The continuity and frequency of the home visits also added to the building of trust between PIEAT trainers and the caregivers. PIEAT had to keep their commitments for returning to the homes with the requested information to uphold the predictability of the program and thereby adding to the development of a trusting relationship as well. Developing relationship was fundamental for attitude and behavior change. Positive shared relationships decrease the stress and anxiety of people and increase the opportunity for learning and change to take place. As shown earlier in the literature review, young children and adults learn best through positive reliable relationships. We found that positive reliable relationships increased the knowledge primary caregivers learned and implemented into their daily practices with young children.

The learning of the primary caregivers was fostered through the development of relationships developed between the primary caregivers and the PIEAT trainers. The trainers modeled prosocial behavior with the caregivers while sharing information on child development. Primary caregiver in turn used these techniques to the development of secure attachments with the young children in their care. The PIEAT trainers modeled responsive and consistent feedback and followed up with the caregivers on an on-going basis for over a nine month period. During focus group and individual informal feedback sessions, caregivers mentioned the importance of
the reassurance provided by PIEAT trainers along with the responsive attention PIEAT trainers gave to individual questions and needs (Cuban & Hayes, 1996).

If it wasn’t for PIEAT to keep returning to my home each week, I would have forgotten to put the bottles outside to make potable water. When Evelyn came back each week or every other week she had to remind me at the beginning about how important it was to make the water. My children and me would have less stomach problems and less diarrhea and less headaches too. Finally after about three or four visits I started to remember to make the water before they would come. It was beautiful they brought the bottles for me to use, I did not have bottles around the house. (Personal field notes from focus group August 5, 2007)

Another woman who complained of constant cramps in her abdomen reported

Elena came a couple of times to the house, each time she tried to help me understand why I could not get rid of the pain in my abdomen. She finally convinced me and helped me get to the hospital in Jalapa. Then I had surgery a few weeks later. I had to have my uterus removed. Now I am healing and able to take care of the children. Before it was hard to even make sure they had enough food, they could not go to school because I could not get them ready. I am so happy that I can now move around and be with my children. I would have never gone if Elena did not keep coming back to visit me. I hope even when the program is finished Elena will come and visit me. (Personal field notes during a home visit, October 27, 2007)

Primary caregivers do not have to rely solely on money to impact the quality of health of young children in their care even though access to health services, potable water, and nutritional foods on a regular basis all contribute to the physical health of young children. It has been found that time developing and maintaining positive relationships with young children is the most significant determinants of optimal child outcomes (Kostelink, Whiren, Soderman, Stein & Gregory, 2002).
In addition, the home visits gave the necessary time and space for the participants to share their valuable information and experience so that the training team could incorporate the participants' needs into the training. Home visits were used to share valuable information and were used by the training team to observe pattern changes in the household. Through observations during home visits the training team could verify if changes such as if the hygiene of the house had changed and if it was consistent, if the children were wearing shoes, if there were any new books in the home, if there were vegetables growing in the patio, or if potable water was being made more regularly.

During the first few visits, the team documented only a small number of changes in the households. However, after the first three or four visits, the team typically saw a significant consistent change in some practices. We attributed this to the predictability of the home visit. However, around the third and fourth home visit the team documented increases in the attendance of charlas as well. (The process of conducting Charlas and documentation of their impacts is discussed at length below.)

The team strongly believed through the conversations with the primary caregivers during home visits, that the attendance to charlas increased due to the relationship building during home visits and the consistent reminders of the charlas during the homes visits. Without the home visits we do not believe that the attendance to charlas would have increased so significantly.
Towards the end of the study, the time between the home visits was longer, sometimes 3 weeks passed before team members returned to the home. This time frame was planned by the team to help wean the primary caregivers off the consistent visits and to help support the behavior changes by the primary caregivers to continue because the changes were beneficial to the family, not because team members were coming to check in. The behavior changes seemed to be sustainable in that the primary caregivers continued to practice them even when the home visits tapered off.

The team reported that it seemed primary caregivers were learning more specific knowledge in the charla programs. This was reflected in the answers of the pre and post questions given at each charla. The only knowledge based questions given during the home visits were the initial and final informal interviews. This is an area of monitoring that could be increased during the home visit phase of the program. I have found it difficult to discern if the knowledge increase more significant in the homes or in the charlas.

During visits to the homes of primary caregivers, the team reported more behavior changes. The changes that significantly increased included the hygiene of the house and children, the consumption of vegetables and fruits in the diet of the children, the wearing of shoes when shoes were given to the family, and the team members were able to observe more talking and singing with their children. These changes were at time shared by the participants during the charlas, however they were not readily observed. The team's finding strongly encourages both parts of the
program to be implemented side by side. The reinforcement of knowledge, sharing attitude changes with neighbors, and having people confirm pattern changes are all significant variables for creating the most change of primary caregivers to increase the well being of young children. Regardless if the primary caregiver received house visits solely or also attended charlas, the data suggests the feasibility and importance of parental involvement for health behavior changes with children of this age.

Following are several graphs that show the increase in various behaviors and the difference between households who received home visits and attended charlas on the variable shown and households who received home visits but did not attend charlas on the topic shown.

As seen in the graph (Figure 5.1), at the time of the first visit none of the households attending charlas were practicing any form of family planning. However, by the eighth visit, 35% of the households that attended charlas were practicing some form of family planning. About 30% of households not attending charlas practiced family planning before the first household visit. This percentage decreased to 14% by the last household visit. This probably can be at least partially be explained by households who were already practicing some form of family planning that started to attend charlas. The average number of charlas that the HH in the “HH who attended charlas” group had attended for each visit, is a bit tricky because the data shows if they had attended charlas for that visit, not how many they had attended.
Figure 5.1. Percent of HH practicing family planning.

Figure 5.2 shows the percent of children under 8 years of age attending primary school stayed relatively constant for households not attending charlas starting at 57% and ending at 54% (with the exception of visit 4/5 where it dropped to 38%). This is a date point that has not been explained. The trainers speculate that perhaps the attendance coincided with the changes in the work availability in the tobacco fields and perhaps more children were need at home for a short while to help care for their younger siblings. The percent of children under 8 attending primary school in households attending charlas increased significantly from 33% during visit 1 to 57% during visit eight. This is due in part to the child care center opening in the educational center that was built during the study.
Figure 5.2. Percent of children under 8 years of age attending primary school versus household visits.

Charlas

The second most significant process that brought about attitude and behavioral changes were the charlas or small focus group workshops. The charla program grew out of the home visits and the themes were generated from formative research carried out at the onset of the study, focus group discussions, household and community observations, and interviews of the participants. Additionally, research has shown that children and families participating in the greater community, that is, attending community charlas, make for higher societal outcomes (Petrie & Holloway, 2006). The training team grouped families with similar concerns and issues together to learn as a focus group. The charlas were given in a series of workshops with the same focus group. The charlas were more important than the
home visits to create the social support systems necessary to keep change sustainable. The home visits were essential to building relationships on an individual level so that trust was established and primary caregivers were available to, learn and retain new knowledge. Through the focus group discussions during the charlas and in-depth interviews of the participants, the following themes were generated for the charlas:

1. Prenatal care.
2. Basic hygiene in the home and communal areas.
3. Acquisition, preparation (including the construction of fuel efficient stoves) and consumption of food in the home.
4. Cleaning and decontamination of households and communal areas.
5. Basic hygiene and nutrition of children.
6. Alternatives to physical punishment.
10. Literacy support.

At the beginning of the study, ten charla series were designed each conducting pre and post conversations about knowledge and behaviors, in addition personal interviews were conducted during the charlas.

Summaries of the information collected during the charlas included perceptions about the problem. Some participants were worried by the problem of
low over all well-being of young children; others were not concerned because they felt they could do nothing about it and life is just that way. The vast majority of the participants recognized that they do not possess enough information about child development to support healthy development of the child. Many participants had not even known that there was so much information available about child development and parenting. Some participants blamed the government for now providing adequate services to families, others blamed the fact that there were no jobs and so they could not take care of their children adequately. Other charla series were developed in response to community need.

For instance, during a one month period of the training, two infants in the greater Jalapa community died of dengue, one of the infants was from the community of study. PIEAT responded by visiting the local ministry of health to ask about dengue and what the government does to help people in the community to prevent dengue. I went to the internet and found information in Spanish about dengue. The training team spent almost 15 hours of the following 48 hours preparing charlas about dengue in response to the comments from participants “that the children were dieing because the government does not bring us the chemicals to put in our water” (PIEAT trainer field notes, March 12, 2007). After making posters of the growth and development of the mosquito responsible in spreading dengue, the types of dengue, and where the mosquito likes to live and grow the PIEAT trainers were ready for some charlas on dengue. The first of the series talked about how people were
dependent on the government to solve the problem and they were putting the lives of their children in the hands of the government. Extensive conversations about dependency, trust, and leadership took place. By the end of the first charla people were ready to take responsibility into their own hands to prevent the deaths of their children, at least the best they could. The participants recognized that education was needed in order to do this. Charlas followed for the next 4 days and continued to explain various contributors to the disease dengue and an overall understanding of the disease.

During the last charla of the series, a formal plan of action was made amongst the participants. This action plan included 13 items. Three items on the list were to use toilet seat covers in the latrines, washing and covering the pila (the place where water is typically stored), and moving the water used for washing to gullies. Gullies had to be made in the dirt that went from the house to the street so that there was a flow of grey water rather than standing grey water around the homes. Grey water refers to the water that has been used for washing hands, food, bathing, clothes, and the like. There are not grey water systems in Champaigny, all the water used during the day typically stays were it falls until it evaporates. During the rainy season the water could take months to evaporate.

Teachers were not aware of the contributors to dengue. Several of the participants organized a workshop in the local school to promote education around dengue and to share with the students during class time. The participants recognized
this was a community effort, not just a house by house effort if the mosquito population was to be decrease.

Other ideas were generated through charla groups that were not generated by house visits. One idea was that of the construction of an educational center. Various ideas were put forward by the participants. They very much wanted to open an educational center where the young children could go during the day while parents were working and also for the kindergarten and first grade children to attend so they did not have to walk down the busy street to the school about 2 kilometers away. The center also was to include a health clinic as most of the participants had not been able to access health care because of the transportation costs necessary to get to the clinic. An additional benefit of the charlas was people were learning together so planning and taking action became easier. Through the charlas groups were organized to address various problems. The charlas around nutrition organized gardening charlas and procedures for seed distribution. Additional charlas were given on the maintenance of the gardens and PIEAT trainers connected with experts from the area bring to the community information in making organic and chemical free pesticides and fungicides.

An example of a charla series developed initially by the PIEAT trainers was around the conditions of hygiene at home. The knowledge in this charla addressed poor hand washing, the effects of soap, making potable water for drinking and wound care, cleanliness in the kitchen (food preparation areas were rarely cleaned) and the
presence of dust on the furniture, utensils, etc. Rags and mops used to clean the floors or tables were sometimes used and at times not washed properly or enough. The collection of laundry seemed to pile up and become impregnated by dust, since it was many times left in the open. There was a lack of water service inside the house, so issues around sanitation and the use of water. Dishes and glassware were typically not covered or protected from dust.

The last charla a formal action plan was made and included items such as primary caregivers are to ensure that they

(a) wash your own and your children’s hands with water and soap before meals, (b) cut your children’s fingernails once a week, (c) before eating, wash fruits and vegetables with running water or in a basin until water runs clear and put a little limen in the water, (d) bathe your children and change their clothes every day they play outside, (e) wash utensils and toys before giving them to children (f) wash kitchenware and utensils before using. (Trainer notes from focus group, April 22, 2007).

The first of the actions were easy to incorporate into a housekeeping routine and did not require a lot of new learning. The other actions were more difficult for primary caregivers to follow through with. The purchasing of soap was not a reality, and changing the children’s clothes every day could not be met by some of the families as they did not have sufficient additional clothing for the children. They did see the possible benefits, however. PIEAT trainers and some of the participants got together and developed a program where donated clothes from other sources could be used to give to families who sent their children to school consistently, who attended charlas, and who improved their practices to increase the well-being of their children.
A new program of clothes and shoe distribution began. This program also increased the number of participants who attended charlas. In addition, during the story-hour time hygiene became a topic of discussion with the children.

Story telling and drama were two tools extensively used as ways to provide opportunities for groups to discuss their child rearing and development needs during home visits and even more so in the charlas. The charlas were organized thematically, and so I have chosen to organize this chapter in a similar way using the same thematic groups rather than a chronology. This chapter shows what changes occurred over time and describes the dynamic or the processes that brought about the change.

*Story Hours*

When I drove rode into the town of Champaigny in early June 2007, the hot days had turned into rainy days. I had learned to appreciate the rain almost as much as those who lived there. Many people were sitting just outside their doorways of the cement covered adobe homes, and the animals, including chickens, dogs, cats, pigs, and an occasional horse and mule, were meandering through the yards and paths among the homes which formed straight lines starting from the road and reaching mid way up the first set of hills. There were a few women and children standing in the road talking to each other and when they noticed me they waved. Some bare-footed and bare-chested children shouted excitedly running towards me. By this time, I had
already pulled my children’s books from my pack and was ready to tell stories to the children.

This was one of those moments I was grateful to be engaged in participatory action research. I had the flexibility and understanding that I could take action that would increase the chances of reaching the stated objectives of the study and not worry about veering from a preplanned design and implementation. The action I was engaging in would be used to inform PIEAT trainers future decisions. From the previous months, the team had discovered that story hours were one of the best ways to get the children involved as community communicators of knowledge and skills that would increase their physical and psychological well-being.

Sandra, a PIEAT trainer, reported to the team that during her story hour she had read a book about a very kind and engaging teacher who was a dinosaur. One of the children, 7 years old, stated that he wished all teachers were like the dinosaur and that he thought his teacher should read the book so she could learn how to teach better. The child came back the next week asking for the story again and told Sandra how he imagined all week what it would be like if he could go to a school like the one in the book. This started a discussion about how children wish school were and how each one of them could become a teacher and be really nice to children. The conversation continued to talk about how people have rights to be treated well and Sandra asked the children what they thought that meant.
After the first several story hours, the children’s desire to hear their favorite stories grew as well as their desire to participate in the parachute games. PIEAT members used a parachute during story hours to support collaborative behaviors. The trainers typically bring the parachutes to the story hour and play cooperative games with the children. At first the games were quite wild, eventually the children learned how to work together and create more organized like play which required a higher level of prosocial behaviors. The attendance at story hours gradually increased during the first several visits. By the fourth and fifth visits word spread through the community between children and parents and by the last visits the attendance increased to more than half of the participating families. PIEAT members continue to hold story hours once a week in Champaigny. In the graph below the number of house visits is used as the unit of time. The number of house visits seemed to be critical for the sustainability of change. It appears that families need at least five to six house visits before a consistent behavior change was observed.

Figure 5.3 shows that the attendance to story hours increased as the number of household visits increased. By the end of the sixth visit, we had 40 of 63 homes attending story hour on a weekly basis. The reason the graph uses the number of home visits rather than the number of which week of the study had to do with the irregular frequency PIEAT trainers visited homes. In other words, at the onset of the study the team originally had panned to organize the data by the week of the study. As the study proceeded the team made the decision to organize the data by the
number of home visits. This was due to the fact during the fourth week of the study, the team decided the more severe cases needed a higher frequency of visits than the less severe cases. Therefore, the severe cases were seen on a more regular basis, usually once a week and the less severe cases were typically scheduled 2 to 4 weeks apart.

![Households Attending Storyhour](image)

**Figure 5.3.** PIEAT story hour attendance.

The story hours were originally provided at the already establish community center in the center of Champaign or at the homes of the PIEAT members living in the community. After the new community educational center was completed the story hours moved to the new center. The number of children and adults attending the story hours varied from eight people to sixty or seventy people depending on the day, time, and location. The home visits supported the attendance to the story hours by providing an explanation of the importance of literacy and the connection to informed decision making, power, and participation. For example, when Veronica
and I visited household 52 during the third home visit, we brought one of the books we usually read during the story hour program. We started our visit by sharing the story with the caregiver and the children. We received a very positive reaction to the story from everyone. We then discussed the significance of the story and how stories are used to build a foundation of literacy for children as well as a method to learn about social and emotional concepts. We then invited the family to attend the next story hour. The family started to send their children after this visit and at times some of the adults would attend as well.

The attendance of story hours gradually increased after the first several visits. The team believes the increase was due to the work in the home visits around the value of stories and their connection to learning. In addition, trainers explained how prosocial behaviors and development were learned and practiced through the cooperative games played. During home visits PIEAT, trainers consistently read books and used dramatizations, a kind of role-playing, with the caregiver and children. For the majority of the time, the caregivers and children were quite engaged in the stories and their interest in books increased. Tisdell (1993) believed feminist critical pedagogies are about stories and are essential for empowerment and to make conceptual meaning. The training includes story hours not only to share stories but also to critically listen to the stories of the primary caregivers and children and to gain an understanding of the experience the women and other primary caregivers are facing.
PIEAT capitalized on these moments to either introduce the concept of the story hours, to support the attendance to the story hours, or to encourage the use of stories in the home as a way of learning and developing relationship between adults and children. Both adults and children attended the story hours with children outnumbering the adults. After attending the enthusiasm from the caregivers and children helped spread the word about the story hours through the community.

Many times after I completed a story hour, the women attending gathered around to update me on all the activities they were engaged in and their desires and hopes that the team would continue to work in their community. For instance, during the development of gardens, the adults who attended the story hours pulled me aside and informed me how they were organizing to distribute seeds and invited me to come and see the banks that were made as a preparation for the gardens and planting of the seeds. They invited me to attend the meeting where the seeds would be distributed and asked if the team could give a workshop before the seeds were distributed to remind the participants of the expectations and strategies of how to care for the plants.

The following day, I and three other team members attended the meeting where the seeds were distributed to community members. I was delighted to see the community organized into four groups. Each group had a designated leader who wrote down the names of the homes who were receiving seeds and which seeds they received. The team’s work was truly becoming easier as members of the community
gained knowledge and skills on organizing, keeping track and accounting of resources, and follow-up procedures. During the process stories were shared on how individual households had made their banks and specific plans on how to care for the plants. PIEAT trainers also gave a short charla on the nutrition impact of the garden vegetables and how nutrition impacted the healthy growth of their children.

Eventually the meeting ended and a plan for future visits and sharing of the harvest had been developed.

*Cycles of Planning, Delivering, and Monitoring*

During the study, PIEAT training members met weekly to reflect on the activities and how they were supporting our progress towards the stated goals. During these sessions, many decisions were made to redress the deficiencies in the implementation of the training. For instance, after the first two weeks visiting homes as we reviewed the folders we realized our organizational system to keep the information orderly was not functioning as planned. The field notes team members were taking were not sufficiently articulated to identify some of the important information needed for the study. For example, the data on which pair visited the home, on which day, and who was present at the visit was missing. We decided to role play and from the role play the team decided to create a checklist with seven important items that needed to be identified and could be written on the paper the field notes were taken on prior to the visit. Each folder would then be prepared with the labeled paperwork prior to the visit and team members could focus more on the
content of the visit than the organization of the filed notes from the visit. The next week while reviewing the folders and the data or field notes each team switched folders with another team so that teams were reading a different teams field notes. Each pair made comments and asked questions for clarification. This led to the decision of creating a template for people to fill in after each visit to ensure notes were complete while the visit was still fresh in the pair’s mind. In addition, 20 minutes between each visit was scheduled so the pair had time to sit and reflect together what had taken place during the home visit and then write the field notes together with more detailed information than if only one member had written notes while the visit was going on.

Additionally this process created opportunity for team members to collaborate on each of the cases and brain storm together possible follow up actions. This process enabled the skills and knowledge available within the team to be identified and utilized for information collection and analysis. The results of the monitoring process enabled decisions to be reached on what was working or not regarding day to day strategies and activities. This process was intended to be developmental in nature and not regulatory, controlling, or judgmental. For the most part, this was true. There were times the specific team members felt they were personally being targeted, however this typically gave way to work on internal dynamics of the team.

The above excerpt describes some of the analysis processes that took place during the study. Analysis of the participatory action research begins at the onset of
the study. The amount of field notes taken can be an all consuming activity and can
grow to a substantial database of notes. Each week part of the analysis process was
the elimination or cutting away of the notes. The notes typically included information
and details that were not of consequence to the project. This required me and other
members to review the field notes and to bring attention to what part of the notes
were significant to the study. As we did this I also took notes of the process and
wrote memos as to why we thought some information was more relevant than other
information.

One of the most difficult parts of this process was not to get side tracked into
other problems or situations that arose. For instance, in one of the cases a mother left
her twenty day old child out all night as a punishment to her abusive boyfriend, also
the father of the baby. Ethically, the team decided we had to promptly act on this
situation. However, the details of the situation were not relevant to the study. Once
the relevant information was teased out of the field notes I started to code the
information.

Coding is a process of assigning meaningful labels to elements of fieldnote
and other recorded information. Coding helped when it came time to decide what
contributed to the findings of the study. Additionally during this process discussions
were held as to explanations related to the situation and deciding which was more
correct. We, the team, discussed multiple explanations choosing the one that seemed
to fit best. We then continued to make an action plan for the following day or week.
Constant and frequent analysis and coding were necessary, not just from the sheer quantity of field notes but also to inform the team how to proceed. Eventually patterns of behavior and patterns within households and in the community emerged. For example, when discussing with primary caregivers why they did not have a garden the first answer typically was that because they had no seeds. After the first week of the repetitive answers, the team decided to change the question to what were ideas they had for starting gardens in their back yards. This led to more detail and variation within the responses.

_Gardens, Fruits, and Vegetables_

In due course, charlas were designed in response to the ideas that came forth. The charlas included information on how to prepare banks and to make rich soil, how to make pesticides that are not harmful to children, how to care for the plants once they sprouted, and ended with a cooking and nutrition class. Through the series of charlas other concerns and ideas emerged. The problem of animals eating their vegetables in yards that did not have fences and concerns of how to share the vegetables between households were two of the more common concerns.

A key index to increase the amount of vegetables and fruit in the family’s daily diet was the availability of seeds. Once seeds were handed out, planted, and the food was ready to harvest, the intake amount significantly increased.

The graph in Figure 5.4 shows a significant increase in the vegetables that were eaten after the gardens which were planted due to the seed distribution started to
produce food. The seeds were distributed by the participants. The primary caregivers
decided to divide the seeds according to the location of the homes. For example,
participants living in close proximity to each other planted different types of
vegetables and fruit bearing trees so they could share the produce with each other and
increase the nutritional balance for their children and families. The home visits
helped sustain the care and cultivation of the gardens which helped sustain the
increased level of vegetables eaten by providing information on organic pesticides
and fertilizers. The positive correlation between home visits and number of fruits and
vegetables eaten per week was 0.976.

![Figure 5.4](image)

Figure 5.4. Fruits and vegetables eaten by children versus HH with garden.

As shown in Figure 5.5, by the eighth visit, children in households who
attended charlas were eating fruits and vegetables more than four times per week,
while children in households not attending charlas only ate them about two times per
week. As the attendance of charlas increased so did the planting of home gardens and vegetables. During the charlas, information and stories were shared between the households as well as the produce that grew. This shared information seemed to be a critical piece in the upkeep of the patio gardens. Without the information and seed distributions, the patio gardens would not have been planted. Participants continued to meet to discuss possibilities of future seed gathering and allocation to help sustain the gardens. Typically the vegetables took about 40 days before harvesting took place, this was seen in the graphs significant increase around the fourth and fifth home visit.

![Charlas Attended vs. HH with Food Bearing Trees/Garden & Times/Week Fruits/Veggies Eaten by Children](image)

Figure 5.5. Charlas attended versus HH with food bearing tree/garden and time/week fruits and vegetables eaten by children.

Home visits are the independent variable (Figure 5.6). Caregivers were more likely to attend charlas, and more likely to eat fruits and vegetables and more likely to
have gardens as the home visits increased. This graph is not so much about the relationship with charlas as with the home visits and the three variables dependent variables, fruits and vegetables eaten, houses holds with food bearing plants, and charlas attended. Charlas do have a positive linear (or curvilinear) relationship with the number of food bearing trees and gardens that the sample of households had because this is where the seeds were distributed and people had to attend the charlas before receiving the seeds. The reason behind mandatory attendance was was to increase the likelihood that the plants would survive and people who use them. The charlas shared information about the planting and maintenance of the plants. The correlation between these variables is 0.852 helps support the finding that the variation in the number of food bearing trees and gardens is explained by the number of households attending charlas.

Figure 5.6. Times per week children under 8 eat fruits and/or vegetables.
With regards to the charlas and the number of times/week children eat fruits/vegetables, the number of charlas attended and the number of times per week that children under 8 eat fruits or vegetables have a positive correlation of 0.885 and helps explain why the variation in the number of fruits and vegetables eaten by children is explained by the number of Charlas on health or education attended. Therefore, as the number of charlas increase the caregivers learn and understand the significance of nutrition and healthy development of children and their families and start to introduce more fruits and vegetables in their diet on a weekly or daily basis.

During a weekly reflection session in late February, 2007, the PIEAT team decided it was crucial to obtain seeds if the primary caregivers were going to provide fruits and vegetables to their children. The primary caregivers were entrenched in the belief they could not afford the seeds or the food and therefore could only provide, in most cases; rice, beans, and tortillas each day. The PIEAT team decided that I had the quickest access to seeds and therefore it became my responsibility to provide seeds for the caregivers. During my visit back to the United States during the first 2 weeks of March, I called a local distributor of organic seeds that were appropriate to use in the mountains of Nicaragua. Luckily, I was successful in my request and obtained over 1,200 packets of seeds, mostly vegetables but some flowers including chamomile.

PIEAT trainers also decided in late February that every household receiving seeds would have to attend a minimum of four charlas, one series, which consisted of
information on composting, how to make organic pesticides, how to take care of the plants, and how to cook and use the plants grown. These charlas had the greatest number of participants of any charlas we provided throughout the study. There were about 52 families represented at the charla series. PIEAT used community resources from a local agricultural coop to come and teach and train the caregivers on local methods of gardening.

The charlas and seed distribution were a response to the primary caregivers' response during initial home visits as to why the children and families were not eating vegetables and fruits. The primary caregivers simply stated they had no seeds or trees to plant. Some of the household had banana matas for fruit and since these plants are easy to grow and quick to produce fruit we helped facilitate the caregivers to organize and share in the distribution of more banana matas with other caregivers.

The graph (Figure 5.4) shows an increase in gardens and vegetables just after the first few home visits, as well as the time the seeds would have been bearing food. During the time of the garden charla series, the home visit programs continued to supplement the caregivers with information focused on the nutritional needs of young children and adults. Many questions and concerns about diabetes, anemia, and asthma arose.

During the weekly reflection periods, PIEAT training members studied and gathered information about each one of the concerns that arose. This provided opportunity for the primary caregivers to learn new information from PIEAT and for
PIEAT training members to learn new facts about concerns of the some of the families. At times the information collected contradicted the trainer’s prior knowledge and dialectical discussions emerged. These discussions deconstructed prior assumptions and reconstructed new meanings of situations using the collected information. This process was critical in the understanding and innovations that developed during the on-going development of the study, the action research part of the methodology. Coding and mapping the concerns from the home visits were valuable tools and provided the training team visual and easily accessible information as to what to review, deconstruct, and adapt during future home visits.

More About Processes

Freire (1970) wrote about naming, reflection, and action as the stages of praxis. The training program used the development of primary caregiver centered workshops or charlas as a place to start to name knowledge and skills and identify existing contradictions in their lives. The next step was to reflect on how the named knowledge or skill impacted the daily lives of the participants. The final step was to decide on a plan of informed action that could help move the participants and trainers towards better evidenced-based daily practice in caring for the young children. The community learning circles in the charlas offered a space to practice the core pedagogy of the charla series, naming, reflection, and action to make decisions for themselves and their families.
Besides coding patterns of responses and constructs in my field notes, I also wrote my own interpretations and kept track of my personal reactions. I coded the field notes with a (RC) signifying researcher's comments or my personal reactions, (IN) signifying my interpretation of the data, and (OB) signifying a descriptive observation. Keeping track of my personal comments helped me identify times that I was "going native" where my perception of the observation changed over time due to my greater depth of understanding and compassion of the participants. I noticed at times I was overlooking the negative aspects of a group because I understood "how the difficulties of their daily lives impact the way they think and how the women are holding on to the familiar patterns of behavior even at the expense of continuing to support the cycle of poverty and at times abuse" (Field notes on July 18, 2008). Equally important was how my researcher comments and those of other members alerted me to a tendency of how I and other trainers, at times ignored information that conflicted with our already held beliefs. I started to recognize how I or the team members created a rationale as to why the conflict had occurred and would think of it more as a coincidence or one time event rather than as evidence that was contrary to our belief system.

At the end of each home visits cycle, typically every 2 weeks or so, I created a matrix (Figure 5.7) that included all the households and the constructs I used in coding. This helped me keep a visual track of the variables and relationship between the households. In addition, I used matrices to help keep track of which team
<table>
<thead>
<tr>
<th>HH#</th>
<th>Concern 1</th>
<th>Concern 2</th>
<th>Concern 3</th>
<th>PIEAT response</th>
<th>Team</th>
<th>Story hour</th>
<th>Charla series</th>
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<td>gardens</td>
</tr>
<tr>
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<td>Ma/Al</td>
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<td>gardens</td>
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<tr>
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<td>dy/mt</td>
<td>yes</td>
<td>gardens</td>
</tr>
<tr>
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<td>nutrition</td>
<td>water</td>
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<td>water</td>
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<td>no</td>
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<td>my/ma</td>
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</table>

Figure 5.7. Weekly matrix to view overall patterns.
members visited which households and who gave story hours and charlas to which group. The matrices also provided a visual as to how the study proceeded and provided information as to where gaps and missing data existed. I doubled checked my notes and matrices with other PIEAT member’s notes as well as the staff’s notes and reports received from PIEAT members and translator if used.

Triangulation, using multiple sources of data, multiple investigators, and multiple ways of interpreting data was applied throughout the study. Documentation came from interviews, focus group discussions, personal field observations and notes, trainer field observations and notes, and meetings. The training team consisted of ten members who participated in the home visits, charlas, and story hours. There were two staff people as well to help out with the logistics and organization of data. All trainers and staff attended meetings regularly which allowed different investigators to bring their perception of the interpretation of the data. Bringing together different perspectives and coming to a consensus of expressed meaning confirms a finding and increases the validity of the findings. Equally important, multiple sources and investigators are critical to obtaining a complete picture of the study and results.

*Midway Evaluation*

The midway evaluation of the study took place in August 2007. The team members stopped working in the community for one week and took a retreat to review the data collected to date and reflect on the process of the training. The midway evaluation was initiated to expand upon and evaluate lessons learned in the
first part of the training. For 8 hours each day, the team analyzed the process of the study and made adjustments for future practice while keeping the stated objectives at the forefront. The first day was spent reddefining the purpose and reviewing the goals and objectives of the study as defined during the planning phase. Other work included deconstructing the reasons and assumptions underlying the evaluation and what the team could learn from as a result of the study.

Then next step in the midway evaluation process was to define the priority areas. This included an assessment of the activities done so far and analysis of the activities to understand how the team had met the stated objectives thus far or not and again make a plan for adjustments. Additionally, the team looked at the process of the study to see if indeed it was a participatory process, were the processes for decision making open and transparent, and was the process of handling the contingencies that arose well thought-out and managed.

The following step was to continue coding the field notes to indicate which information directly related to the questions being measured. Some of the areas coded were the making of potable water, the amount of fruits and vegetables eaten per week, and the attendance of charlas and of story hours. Indirect information was also coded. This included information on aspects that could not be easily or accurately measured such as reports of domestic violence and mental illness. This information provided clues into the attitudes and possible attitude changes that were or were not taking place with the primary caregivers.
The most significant discovery of the midway evaluation was the identification that the team had not collected a sufficient amount of notes and notes were sometimes inconsistent. Lengthy discussion on alternative ways of gathering the information were had and members practiced taking notes, analyzing the notes, and compiling the information into a summary report. This was a labor of love and lasted for hours. The result of the somewhat grueling process was a much higher level of reliability between members and some new ways of collecting data were developed to further ensure the reliability of members and the validity of data. For example, during the process of coding for hygiene in the household, specific concerns were illuminated during reflective conversations and the reading of the summary reports. As a result the team came up with a survey document to help the team more uniformly assess the hygiene of the home. This document is attached in Appendix D.

The last day of the retreat an action plan was developed and included an agreement on specific activities that would enhance the organization and thoroughness of the field notes, dates by which the activities would be completed, a list of materials and resources required for the preparation of the home visits, preparation for community workshops or charlas, and a designation of who was responsible for each of the activities. The evaluation’s results were systematized into the normal implementation procedures, modified and added to the original log frame plan.
Other results that were obtained during the week long evaluation process was the acknowledgment of the increased awareness team members had about local population dynamics, unforeseen child development issues, and various ways to address identified issues. Communication skills dealing with primary caregivers were also seen as developing as were skills for organization among the team. This kind of awareness empowered the team and left lasting and tangible benefits for the team, the predicing community, and the primary caregivers of Champaigny.

Veronica, a PIEAT trainer, described how excited she felt about the change in her self. She noticed that she was becoming more confident and less afraid of speaking her opinion. Her opinion was no longer just about what she thought; her opinion now had evidenced-based experience and knowledge behind it. She admitted that it was still difficult to talk about power issues between members of the group. She was afraid of making people in the group mad and creating gossip.

When a think about where I was just a year ago, I start to cry, I was a domestic when I could find work which was hardly ever and really hard work. I could not read or write. I cannot believe I allowed so many things in my life, like domestic violence and punishment. I am so happy and sometimes so very sad when I think of the past and that I now know and can give my support to my own children and to my friends and neighbors so that our children can grow up differently. It is this difference that can change our community. I have hope that one day we will not all be living in poverty. I have hope that our children can grow up happy. But there is such a long way to go. (Personal notes from Veronica, August 16, 2007)

As expected, friendships between me and training members and primary caregivers in Champaigny continued to develop. The friendships were quite
important in building the trust and openness that was needed to discuss close personal matters such as child rearing practices. At times the ambiguity, that of being a researcher and dear friend, added a tension with myself, where I constantly reflected on my motives and the authenticity of the friendships and how this may effect how I hear people’s responses. On the continuum of objectivity to subjectivity I found myself to moving towards the subjective end sharing my own personal history and feelings and acting from a place of compassion in times of ethical decision making.

An example of this is when I heard a story about a primary caregiver whose daughter was being molested by a man in the neighborhood. As a researcher, I listened and took field notes about the experience, the primary caregiver’s body language and emotions and added the information to the body of data. The primary caregiver and I agreed that I could bring the situation to the entire team and ask for their ideas and support. When I brought the case to the team, we brain stormed together a plan of action to try and stop the molestation by the man as well as a plan to attend to the little girl’s emotional and social development. The situation concluded by a group of the team members and the caregiver with a trusted man from the community, approaching the man, and stating we were all aware of what was going on, we all would be keeping an eye on him, and if he continued to molest the child, we would report him to the local authorities and to the local woman’s group fighting against domestic violence. This group effort resulted in the man leaving the child alone. On one hand, joining together deepened our trust and relationship; on the
other hand, this sharing made it difficult to maintain objectivity. Much of my field notes contain an abundance of similar situations, decisions, and actions.

**Domestic Violence and Neglect**

Domestic violence is high in Nicaragua (Ellsberg, Peñam, Herrera, Liljestrand, & Winkvist, 1999). Large numbers of children from developing countries are exposed to community and family violence and children born into poverty are nearly seven times more likely to be victims of abuse or neglect and twice as likely to be the victims of a violent crime and to feel unsafe in their neighborhood, (UNICEF, 2004, 2006, 2007). Currently available evidence shows that specific risks are encountered by young children in developing countries exposed to domestic violence. Children exposed to domestic violence refers to children seeing, hearing or being aware of violence against one parent figure or other member of the family that is perpetrated by another parent figure or other member of the family. Ability to learn may be decreased due to impact of violence and compromises their development (Fantuzzo et al., 1991; Osofsky & Fitzgerald, 2000; Taylor, Zuckerman, Harik, & Groves, 1994).

Horsman (1999) has demonstrated that women have been subject to many forms of trauma that are used to control, humiliate, debilitate, and silence of women. Much of this violence against girls and women has occurred in school settings as well as in homes and other public places within their communities. These events make it hard for women to learn. Many of the primary caregivers of the study are victims of
domestic violence and their decisions are based upon fear that has grown out of such experiences. Primary caregiver Felma described her situation.

I am afraid for my children, when their dad comes home he usually had too much to drink and yells at everyone. Yes, sometimes he hits me and sometimes the children. We do not know what to do, he does bring in some money. How can I feed and raise the children by myself. There is no safe place to go. He goes to some other woman’s home for a couple of months and then returns. I do not know how to keep him out. I just do not know what to do. Many women in this community suffer from the same thing. (Notes from home visit August 2, 2007)

Sometimes girls have not been able to attend school or other learning settings because of their physical conditions, their stigmas, or entrapment from domestic violence. Another care provider shared the story of an 11 year old girl who was gang raped by some men from a near by community and now she was seen as “a dirty” girl. She was no longer allowed to attend school. Many of the people in the community chastised her. The caregiver had tears in her eyes when she told the story. She described how she felt sad for the girl, but if she were to reach out and help the girl she would also become a victim of violence. She could not risk it. (PIEAT trainer notes, August 10, 2007). Such trauma also impedes women's self-esteem thus making it hard to see a vision for the future or to feel capable to set goals and create a different life.

Connecting concrete emotional experience and analytical detachment is not an easy task but it was seen as a essential if people were to learn and develop. Part of the participatory action research methodology is to not only collect data and analyze
the data to inform action, but to also take action. It is a type of action-research, a comparative research on the conditions and effects of various forms of social action, and research leading to social action. Research that produces nothing but books will not suffice (Lewin, 1946).

Domestic violence in Nicaragua is very prevalent; therefore a couple of months of intervention through household visits and charlas were unlikely to significantly change such deep-rooted social behavior. The weak relationship between home visits and talk of domestic violence supported this assumption (Figure 5.8).

![Figure 5.8. Number of households that talked about domestic violence.](image)

Charlas have a positive linear relationship with the number of households with talk of domestic violence; the correlation between the two variables is 0.121 (Figure 5.9). The patterns of behavior, or culture in the area of domestic violence seem the most difficult to shift. I have noticed that only when a psychological linkage was
made between the image of domestic violence and the stereotype of the people belonging to the group or victims of domestic violence and only when individuals see themselves as typical representatives, was the intervention or training with individuals likely to affect a change in attitude or behavior.

Figure 5.9. Charlas attended versus talk of domestic violence.

The results from the statistical analysis did not show any significant change with regards to maltreatment of children. However, what informed the team members about maltreatment of children were the stories and field notes gathered during home visits. Through the anecdotal stories trainers were also able to identify significant attitude changes in child maltreatment and neglect. As one trainer Maria, noted,

While taking the bus from Champaigny into Jalapa a participant caregiver who attended some home visits and charlas, got on the bus and spotted me. She made her way to the seat where I was sitting and started to cry. She thanked me for the information I shared with her during the last home visit about emotional development of children, ten reasons why physical
punishment is destructive to the development of children, and alternatives to physical punishment. She had applied several of the strategies with her son and the relationship between her and her son was far closer than she ever had imagined possible. (Notes from the team meeting April, 2 2007)

Not only did the program give benefit to this family, but as Maria told the story, she also became teary eyed as she felt she had actually made a difference in people’s lives.

Before the training program, Maria did not give value to her experience and knowledge and never she think she would contribute to the over all well-being of her community. From that point on, Maria’s motivation for the program increased significantly. Motivation for change must be generated before change can occur. One must re-examine the treasured assumptions about oneself and one’s relations to other before transformation can take place. The example above provides anecdotal evidence to the attitude change that was taking place from those involved in the training program. McTaggart (1996) stated that “Action research is not a ‘method’ or a ‘procedure’ for research but a series of commitments to observe and problematize through practice a series of principles for conducting social enquiry” (p. 248).

Anecdotal accounts are records that identify change and patterns of change. Coding anecdotal records helped highlight the part(s) of the training support change. This turned practice was a high level of analysis. The analysis was carried out on a daily basis which then informed decisions and adjustments to the training for the following days.
One of the issues that PIEAT trainers came across on a daily basis was the use of physical punishment on children. Several PIEAT trainers used physical punishment with their own children. From direct experience, the trainers understood the profound work it took to change their knowledge, beliefs, and patterns of guidance and discipline. "I believed I was not raising my children in a right way if I did not hit them," one of the participant primary caregivers shared with the trainers during a home visit (Trainer notes May 11, 2007). The belief was that the caregiver cared enough about the child to shape behavior and physical punishment was the best way to do this. This has become one of the hardest habits to break.

During the charlas, trainers first started to share information about why physical punishment has negative impacts on the development of young children. Secondly, information was shared to help learn to think about discipline and guidance in terms of setting foundations for children to have enough information and resources to make good choices, even when adults are not around. The discussions about talking and shaping choice making were quite lengthy and lively. A list of 20 strategies for guidance and decision making were drawn up with the caregivers' input during the charlas. Once the caregiver understood the information and was able to shift her attitude trainers began to see the difference in quality of home life and relationships between the children and caregivers. Not only did caregivers benefit from this, many PIEAT trainers also realized as adults, they did not have to get hit by
the people who love them as well. Adults and children are less likely to live in
conditions of violence when knowledge and attitude have changed.

The charlas around domestic violence focused information on the social and
emotional development of children. Trainers explained how cognitive abilities could
not develop properly without a secure social and emotional foundation. Self-
regulation skills and resilience were discussed. Conversations about how the stresses
of poverty effect children and their families and how primary caregivers are the ones
who have the power and opportunity to try and offer a home environment that
provides a secure base for children to learn self-regulation skills, non-violent conflict
resolution skills, how to become aware of our own and other people's feelings, how
to express feelings, and community building skills that will help develop compassion
and healthy relationships.

This led into discussions about leaving children home alone and the
contradictions that come with the double burden of work and primary caregiving.
During PIEAT house visits, trainers came across many homes with young children
and no adult. In a poor country like Nicaragua, where it is estimated that almost half
the population is below the age of 15 years, the life situation for many children
appears to be a double burden (UNICEF, 2009). Remembering that all the caretakers
in the study were poor or extremely poor and the myriad of correlations associated
with households living in poverty, trainers expected to see a common practice for
both girls and boys to care for their siblings. In most cases, the children lived in a
single-headed household, usually with their mothers and other relatives. They had learned caretaking practices from their mothers, neighbors, or relatives. There seemed to be little free time for many of the children and many children had little time for play or for rest. This was the case especially for the older children who worked and at times and attended school.

One of the homes the trainers visited heard giggling inside as they approached the closed door. There were four children living there, two girls and two boys, the oldest was 5 years old. They were left home alone each day for 7 to 10 hours a day while their mom went to work in the tobacco fields. The father was not living with the family. Their aunt sometimes lived in the house with them, but she also worked during the day. The oldest child was hesitant to open the door to the trainers. The trainers did not try to go in, they spoke to the children through the cracked opened door. The trainers read a short book to the children, sang two songs, and then shared some of their lunch with the children. The trainers told the children to give a note they had written to their mom. Trainers were hesitant to do this as many of the adults could not read or write. The note had the symbol of PIEAT at the top of the page and pictures of water jugs and children on the margins. Even though children seemed hesitant to open the door, they seemed quite comfortable with the situation. These types of conditions are common for so many of the children in the village the trainers did not seem to find children who felt abandoned or neglected due to the situation.
Reports from caregivers and the children themselves suggested that children left home alone increased the risk of abuse. Several cases were reported during home interviews about older sibling abuse and abuse from community members, especially when young girls around the age of 11 or 12 were watching younger children. There were three reports of incest, five reports of rape, over twenty reports of harassment, and over 40 reports of verbal abuse.

A similar pattern to the other graphs is noticed when attendance of charlas were considered. As shown in Figure 5.1, the households attending charlas increased from 0% of children under 8 left home alone during the day to 22% during visit three, then dropping to 9%. There were only two households who attended charlas during visit one, therefore, 0% is insignificant. As the number of families attending charlas increases, by visit three there are 35 households attending charlas, this is a more representative number at about 22%, similar to the number of children left home alone in the households not attending charlas (25% during visit three). After visit three, the number of children left home alone in households attending charlas drops to 9%, while the percent in the households not attending charlas fluctuates 25% during visit eight.

In many of the homes where children were home alone during the day, there were children who did not eat during the day or had very little to eat. There were fifteen single headed households who reported that the mom woke at 3:30 a.m. and prepared food to ensure there was food for her children while she worked in the
Figure 5.10. Percent of children under 8 years of age left home alone during the day versus household visits and charlas.

tobacco barn in the village down the road. Several families reported leaving a few bananas, or small portions of rice and beans out for the children. However, when trainers asked the children about eating, the majority answered they did not eat that day because they could not cook or did not understand how to distribute the food left for them. There were 24 households who reported that food scarcity was the reason children did not eat well during the day. Trainers also discovered that chores around the house increased with age. It seems to be a common situation for poor families to rely on children to work as caretakers for younger siblings and be responsible for chores such as washing clothes, while the adults or older siblings were working outside the home.
Many of the children seemed malnourished, not eating a well balanced diet and in some instances insufficient calories. Some also showed signs of having parasites, swollen bellies, pain in the abdomen, and diarrhea. A pattern emerged and in most single headed households there were several children home alone. Typically the family head of household was the mother. The fathers were reported to have moved to another woman's house, to another country for work, in some cases he was still around but did not contribute to the household, or the woman kicked him out due to alcohol and abuse.

Not all single headed households had this story. There were stories where an uncle or the father of the children visited and contributed to the household on a regular basis and helped in the child rearing. Many of the children home alone did not attend school. During the visits, PIEAT trainers shared their personal stories of working, raising their own children, and how many times their children were left home alone. The stories were not unique to Champaigny. Many of the trainers had relatives who worked in other countries who sent money back to the family to help support the family. Many times, this seemed to be the only way some families were able to survive. Consistent year round employment is very rare to come by. Many children in Nicaragua are facing a life in poverty with limited resources to improve their lives. In addition they are often expected to contribute to their families by either working outside their homes or as caretakers for younger siblings. The impact these
conditions have for the children in limiting their development continues to be of great concern.

In further studies, I suggest data include information during times of employment as well as times of non-employment. There are many possible changes that could take place; for example, during times of unemployment, there could be an increase in the number of caregivers receiving the training per household as more caregivers would be home during the day to receive the training. If there are more caregivers out of work mostly likely there will less children home alone during the day since there would more likely be adults home during the day. Additional opportunities to create play groups with mom's and young children could be increased due to the additional time mom's may have since they time would not as bounded by an out of home job.

Health and Hygiene

Champaigny: The poverty, the dust, the mud, the smoke from wood burning stoves and garbage burning, and the garbage in the streets . . .

Most people living in Champaigny walk, ride a horse, or ride a bike. It is common to see children ride the horses or bikes themselves, and often there are several people riding on one horse or on one bike. Domestic animals walk freely around the community, cows, pigs, dogs, cats, hens, chickens, horses. Many houses have a barbed wire fence around the yard to keep the animals either in or out of the house, depending on who the owner is. There is usually no grass in the yards, only
the redblack earth. Some homes have trees to give shade or food. The stove is usually an open fire, and in many houses situated on the ground. Few houses have electricity. Most of the homes were newer houses made from adobe and covered with big cement and had a few windows throughout the home.

The areas that showed the largest impact were child health and hygiene that promoted the utilization of preventive health measures such as making potable water, wearing shoes when shoes were provided, the increase of fruits and vegetables in the diet when easily available.

The number of households with potable explains 37.1% of the variation in the number of sick children and the number of children under 8 with a sickness have a negative linear relationship shown by a correlation of -0.609. The standard deviation of the error—in real terms in what it tells us. So, 37.1% of the variation in the number of children who are sick is explained by the number of households with potable water.

The data in Figures 5.12 and 5.13 are similar to the data for the percent of households with children at an acceptable level of cleanliness (Figure 5.11). Since there were so few households attending charlas during the first visit, they all happen to have children at an acceptable level of hygiene. As more households began attending charlas, the percent of children at an acceptable level of hygiene decreased to 83%, and then as they all attended more charlas, the percent increased to 94% by visit eight. This is most likely due to the added time and observations of households.
during the home visits. PIEAT members were able to more accurately identify the overall hygiene of the children. The percent of children at an acceptable level of hygiene in households not attending charlas started at 59% during visit one and decreased to 50% during visit eight.

Figure 5.11. Households with child at an acceptable level of hygiene.

Figure 5.12. Average of health and nutritional practices observed.
Figure 5.13. Regression of households with potable water and the number of sick children.

The graph in Figure 5.15 shows the same trend as the graph above Figure 5.14 and Figure 5.11. The average hygiene of children in households attending charlas started out at 4; however, there were only two households attending charlas at the beginning (visit one), which is too small of a sample size to be representative of all the participant households. As more households attended charlas, 35 or 50% of households attended charlas by visit three, the average hygiene of the children dropped to just above 3. By visit eight plus, the average hygiene of children in households attending charlas increased to 3.8. The average hygiene of children in households not attending charlas was initially 2.5% and decreased to 1.8% by the end of the study. It may be that households who started to attend charlas were more open to the new information and more willing to make changes such as increase the level of hygiene of their children and the cleanliness of their homes, while the households who did not ever attend a charlas were not as interested and not as willing to make the
changes. If that was the case, then it would make sense that the number decreased for households not attending charlas, because the households left in that group were those not ready or willing to change.

![Graph 1](image1)

Figure 5.14. Percentage of HH where children have acceptable level of hygiene versus household visits.

![Graph 2](image2)

Figure 5.15. Average hygiene of children under 8 years of age versus household visits.
The number of children under 8 without shoes explains 75.5% of the variation in the number of sick children (Figure 5.16). The number of sick children is positively related with the number of children without shoes. The linear regression of these two variables is $Y = 19.1 + 0.46X$ and the $R^2$ is 0.757 ($p < 0.05$). This means that 75.7% of the variation in the number of sick children can be explained by the number of children without shoes. The community has many animals roaming around free throughout the yards and community, as well as an abundance of garbage as there is not a garbage disposal system other than burning. When children wear shoes, they are less likely to contact parasites or bacteria from the animal dropping or garbage.

![Regression of # of Children Without Shoes and # of Sick Children](image)

Figure 5.16. Regression of the number of children without shoes and the number of sick children.

The linear regression of the number of home visits and the average hygiene of those homes, ranked on a scale of one to five where five is equal to a very clean
home, is \( Y = 0.072x + 2.4907 \) and the \( R\)-squared is 0.9763 \( (p < 0.05) \). This suggests that the number of home visits explains 97.6% of the variation in average household hygiene and that household hygiene has a strong positive linear relationship with the number of home visits. As seen in Figure 5.17, the average hygiene of the homes visited steadily increases with the number of home visits.

Poverty in combination with low education in mothers are risk factors for the children’s health (Peña, 1999). The children of these mothers often are faced with huge responsibilities taking care of their younger children. The consequences in health for these children as caretakers, and for those children being cared for, need to be further investigated, but one can assume that their situation is difficult.

![Figure 5.17. Regression of the level of hygiene in the home, children, and the number of house visits.](image)

Figure 5.17. Regression of the level of hygiene in the home, children, and the number of house visits.
Putting It All Together

The two most significant world wide documents on educational goals and objectives for the care and education for young children are the Dakar Framework for Action (2000), where 164 countries adopted six targets for education for all children for 2015 and the Millennium Development Goals (MDGs; United Nations, 2005), which describes eight wide-ranging commitments for areas including education, child health, nutrition, and poverty detail top policy recommendations. Highlighted in these documents is the necessary prioritization from communities and nations on early childhood education and care in planning for all children, with incentives provided to include those who are vulnerable and disadvantaged. In addition, communities and nations are to strengthen and widen anti-poverty commitments by tackling child malnutrition and providing public health systems, ensuing innovative social welfare programs which target poor households, (UNICEF, 2009). Both documents state that education in general and specifically to primary caregivers, has a crucial role in reducing poverty and inequality, strengthening democracy, and improving child health and well being. The PIEAT training program contributes evidenced-based information to the innovation of early childhood care, development, and education of young children.

Family life is central to the success of young children. The capability of the primary caregiver and the family to provide the necessary environment for the child to grow and flourish is dependent on the knowledge and skills in the domains of child
development and access to resources that can provide the basic necessities such as housing, potable water, health care, and nutrition. The UNICEF EFA Global Monitoring Report 2009 stated that the inequalities in education undermine the goals. The report goes on to confirm that strong links exist between education and health and that mothers with education provide better care for their children. The importance of early childhood care, development, and education as shown in the literature review of this document supports the assertion when primary care providers who work with young children understand the child's complete development, the quality of care is increased and the child’s health and well-being is increased because child outcomes depend on the interconnectedness of the developmental domains (Dowling, 2000).

Diffusion or the spread of knowledge and practices beyond the point of the initial project contact was a side-effect of the training. For example, the spread of the information on how to make potable water or how to make rehydration fluid for those with diarrhea to those who have not been directly taught or visited by the PIEAT team was clearly identified during visits later in the study. This effect is desirable, and has been noted during the study. However, the study was not set up with efficient methods in evaluation for this to be clearly identified and assessed. PIEAT members were able to find pregnant women and provide prenatal information and assist them to the health centers for prenatal exams. This increased the success of the prenatal
care and promoted breast feeding and the sharing of information on family planning and other issues around sexual relationships including HIV/AIDS.

The data collected and recorded from direct responses from the target population indicated changes in behavior and attitude resulting from the knowledges and services PIEAT provided. This study proposes that the PIEAT training program brought information to many families isolated from accessing information and resources on child development and basic preventative health and hygiene practices. The training program tailored the curricular content to meet the needs of individual families and resulted in increasing caregiver knowledge, changing the attitude of primary caregivers in some areas, and improving some caregiver child rearing skills. It appears that home visitations were most successful when the homes continued to receive visits over a longer period of time with more frequent visits. Additionally, there was a positive correlation between household economic wellbeing and the implementation of new knowledge observed through changes in daily child rearing behaviors.

Education is not neutral. Education is placed in a sociopolitical and economic setting where cultural power exists in and is promulgated through. The dominant voices and viewpoints represented in education and those who control what is taught affect the directions of democracy and the possibilities for social justice. Many modes of oppression are maintained by what voices and topics exist in the educational process. Marginalized voices and viewpoints are typically underserved,
invisible, ignored, or denied. One of the goals of the MDGs (UNICEF, 2009) is to promote gender equality and empower women. Education and other literacy skills enable peoples to more likely participate in society, such as in local village meetings, and this participation plays an important role in developing democracy. The PIEAT training program intentionally and carefully included the participants' voice and knowledge from the beginning of the study. This gave opportunity for participants to expand on their literacy skills and organizational skills to mobilize and take action towards affecting their conditions resulting from living in poverty. Poverty is a large part of the explanation for the inequalities in the availability of educational programs, child care, and access to child and families related services, (UNICEF, 2009).

Though many people's knowledge and identities have historically been marginalized by culture, this dissertation focuses on primary caregivers who are typically women. Therefore, the training team used women-centered education materials and resources to provide one form of women's empowerment as well as to provide the learners access to a place where their voices, wisdom, knowledge, experiences, and sense of self were shared and made available to others and to the decision making process.

This dissertation studied the effect of an early childhood caregiver education program on primary caregivers in rural Nicaragua, and as an added benefit to the primary goal, attempted to illuminate the lack of women-centered education information materials and suggests reasons for their scarcity. It centralizes the voices
of primary caregivers and explores with them what educational information would enrich or change their lives and experiences as primary caregivers. Primary caregivers involved in this project helped uncover what types of child development information and materials were needed to help improve the lives of children under 8 years of age and their families.

Time developing and maintaining positive relationships with young children was the most significant determinants of optimal child outcomes, also supported by Kostelink, Whiren, Soderman, Stein, and Gregory (2002). Pre-existing views of child development are now changing as a result. Attitudes shifted from a more traditional view of caregiver babysitting (Zaslow & Martinez-Beck, 2006) our youngest children to those who are educating and caring for our youngest children which is central to the development and future success of the child and of the community.

Evidence-based childcare and educational practice is defining and promoting knowledge and tools for primary caregivers to help strengthen the environment they provide from which the foundation of the child’s life will develop. The PIEAT training program provided primary caregivers specific knowledge and skills in the all domains of children development. The study found with continued follow up house visits and charlas with primary caregivers child care practices changed moving towards increasing the quality of psychological and physical care for young children.

Additionally, the training provided some foundation for building a network of primary caregivers with other members in the community who were interested in
working collaboratively and cooperatively to create, evaluate and distribute information on early childhood care, development, and education.

Initially, I brought relevant information on early childhood care, development, and education to the trainers and the local members of PIEAT brought the knowledge and experience about life in Champaigny. Finally, by the end of this participatory action research, I had learned how to let go of providing all the technical information and allowed the other PIEAT training team members to take responsibility for informing their own actions and learning around child development. It seems that PIEAT members have learned how to take control of their collective destiny, and the realization that it is the local members of PIEAT that must drive the change if this change is to become sustainable, the change must come from within the community and local caregivers. Our collaborative participation supported the faithfulness to the intervention under study. Even the mundane tasks such as making copies were taken as opportunities for collective participation. Attention to the quality of relationships within the group was a top priority and important for the development of the cooperative spirit of inquiry and congruence in the process of the project.

This study was useful and beneficial to the people who participated; it contained practical common sense knowledge which was relevant to their situation and to their livelihood. This study benefitted the local people and was not just as an answer to the questions or curiosity posed. In this study, the PIEAT training team literally dealt with life and death issues and other serious life situations which were
improved through the intervention program. In addition, PIEAT members were given opportunities to increase their personal use and knowledge of organizational skills, data analysis, prioritizing, decision-making, and how to access resources. Overall, the women of the PIEAT training team as well as the participant primary caregivers in Champaigny increased self-efficacy through their empowerment and new awareness and knowledge with minimal cost.

Home visits gave primary caregivers opportunity to tell their stories and come to terms with the struggles and suffering they have endured in such a way that leaves them better off. It seems that people who have real concrete issues at hand are willing to act on what has been learned in the course of research. This study clearly shows that education needs to be integrated into wider strategies for overcoming poverty and extreme inequality. The document clearly shows how the key areas of ECCDE, literacy and non formal education opportunities have been neglected and are underlying causes to some of the biggest barriers to improving conditions in the wellbeing of young children and their families. In addition, the educational programs that are currently in place do not have a strong enough connection dealing with public health and child nutrition, and the personal issues primary caregivers face.

United States, the richest country in the world, does not have national standard or regulatory structures for ECCDE programs, which results in large variations in quality and coverage and inequalities leaving those living in poverty further behind (UNICEF, 2009). Impoverished nations’ struggles are amplified and the solutions are
typically not funded to the extent they need to be to address the urgency and need of ECCDE programs. My hope is that the PIEAT training program is used at a national level to inform policy makers to support and fund local initiatives that will promote, expand, and improve comprehensive early childhood care, development, and education; especially for the most vulnerable and disadvantaged. The education of primary caregivers is an effective fundamental level to create change for the next generation and help Nicaragua move towards the development of a more just nation.
APPENDIX A

INFORMED CONSENT
INFORMED CONSENT, ENGLISH

I, __________________________ agree to participate in the study of the early childhood training given by PIEAT. Deborah Young will be collecting information to study the impact the PIEAT training has on primary caregiver's child rearing practices. The study includes participation in home visits, community workshops, and the construction of an education center in my community. I understand my participation is voluntary and there is no compensation for my participation. I may decide not to participate at any time. There will be no consequences for stopping. I will notify Deborah if I do not want to continue the intervention program.

If I am interested in receiving the PIEAT training but not interested in participating in the study, once the study is finished I will have an opportunity to participate in the training.

The study will last no longer than six months. Deborah agrees to keep my personal information confidential, this means that it will not be shared with other people. 100% privacy cannot be guaranteed. However, Deborah will help assure privacy by not mentioning my name in any written document. The notes taken during the training will be used as data for the study and some of my responses may be used in the final written report. My name will not be used in the final written report. At any point during the training I can let Deborah know if there is a part of the information I do not want her to use and she will not use it in the study.

I understand there are some risks involved by participating in this program such as:

1. The information provided to me may be interpreted by other people differently than I intended.
2. Other people in the community may overhear discussions while visitations are taking place.
3. People attending the workshops may talk with other members of the community about what went on during the workshops.
4. Gossip may start and misinformation may spread.
5. Perpetrators of domestic violence may hear that the problem of abuse is being addressed and may be provoked, violence may increase as a result.
6. Deborah will not report to authorities any domestic violence discovered or discussed, she will however encourage victims to seek help through various resources available to them.

To limit the amount of gossip all participating caregivers will sign this consent form before the study starts. By signing this consent form, I agree not to share personal information mentioned during the workshops outside of the workshops.

During the construction of the educational center many community members will be working on the project, Deborah has little control of what goes on between
community members. There are inherent risks due to the labor involved in the construction of the school. Deborah does not have control over these risks and every community member voluntarily takes the risks. I will not blame Deborah for any injury that may occur or ask for any type of compensation for an injury.

If you want any more information about the study or PIEAT training please contact either Deborah Young or Alejandra Gomez. If an uncomfortable situation arises or you have any concerns about the study, PIEAT training, or its members please contact either Deborah Young or Alejandra Gomez. We live at the green house, next to the new Casa Materna.

You may also contact may contact the HSRC Administrator, 1380 Lawrence Street, Suite 1400, (303) 556-4060, with questions about your rights as a research subject.

You will be given a copy of this consent form to keep.

__________________________________________  ____________
Primary Caregiver                                Date
INFORMED CONSENT, SPANISH

Programa Integral Educando con Amor y Ternura

Yo, [nombre], acepto participar en el estudio de PIEAT. Deborah Young recopilará información para estudiar el impacto que PIEAT ha tenido en las comunidades. El estudio incluye visitas casa a casa, talleres en las comunidades, y la construcción de un centro educacional en la comunidad. Entiendo que mi participación es voluntaria y que no hay compensación por ello. Podré decidir no participar en el estudio cuando lo desee y no habrá ninguna consecuencia por esto; notificare a Deborah en caso que ya no quiera participar en el programa de intervención.

Si me interesara recibir el entrenamiento de PIEAT, pero no participar en el estudio, tendré la oportunidad de participar en el entrenamiento cuando el estudio termine.

El estudio no durará más de 6 meses. Deborah se compromete a mantener mi información confidencial, esto significa que no será compartida con otros. No se puede garantizar 100% de privacidad. Además Deborah ayudará a asegurar la privacidad no mencionando mi nombre en ninguno de los documentos escritos. Las notas tomadas durante el entrenamiento se usarán como datos en el estudio y algunas de mis respuestas pueden ser usadas en el reporte final también. En cualquier punto durante el entrenamiento podré hacerle saber a Deborah que parte de mi información no quiero que sea usada y ella no la pondrá en el estudio.

Entiendo que hay algunos riesgos implicados al participar en este programa de intervención tales como:

1. La información dada a mi puede ser interpretado diferente por otros.
2. Otras personas de la comunidad podrían oír las conversaciones durante las visitas están teniendo lugar.
3. La gente que va a los talleres podrían hablar con otros miembros de la comunidad sobre lo que pasó durante los talleres y divulgar información personal de los participantes.
4. El chisme podría comenzar y la mala información se difundiría.
5. Los perpetradores de violencia doméstica pueden oír que estos problemas están siendo manejados y sentirse provocados.
6. Deborah no reportará a las autoridades cualquier caso de violencia doméstica descubierto o discutido, sin embargo, ella dará coraje a las víctimas para que busquen ayuda a través de los recursos disponibles para ellos.

Para limitar la cantidad de chismes, todos los cuidadores primarios firmarán esta forma de consentimiento antes de que el estudio comience. Firmando esta forma de consentimiento, me comprometo a no difundir información personal de los participantes, mencionada durante los talleres.
Durante la construcción del centro educacional muchos miembros de la comunidad participarán y Deborah no tendrá de control de lo que pasa entre los miembros de la comunidad. Hay riesgos debido al tipo de labor que implica la construcción de la escuela. Deborah no tiene control sobre estos riesgos y cada miembro de la comunidad los aceptan voluntariamente. No culpare ni pediré compensación a Deborah por cualquier lesión que pueda ocurrir.

Si aparece una situación incómoda o existe algún malentendido con Deborah, por favor contacte Alejandra Cardanas Gómez o Deborah Young. Vivimos en la casa próxima de la casa materna.

UD. También puede contactar mi contacto de HSRC administrador, 1380 Lawrence Street, Suite 1400, (303) 556-4060, con preguntas sobre sus derechos como sujetos de investigación.

Usted recibirá una copia de esta forma de consentimiento después que sea firmada.

________________________  ____________________
Cuidador primario                 Fecha
APPENDIX B

INTERVIEW
In take: Dates of visits: Initial _____ (follow-up) _____

1. Who lives in the household - Name/ages:

2. Is anyone sick in the home, with what, including any disabilities, explain: What are the most common sicknesses in your household?

3. If there are children: How many children go to school? Where are the 0-5 year olds during the day and who takes care of them? Is this adequate for you? Do you wish you had other arrangements? What sorts of arrangement would you like to see? At what age do you think children can be safely left at home alone?

4. Where do the adults work? How many of the children work? What is the pay?

5. What sorts of community safety practices do you think are important for your children? Are they practiced in your community? If not why do you think? Are there some you would want to see happen? What do you think can be done about this?

6. Can any one read in the home? Who? To what grade did the adults attend school? Do you have any books in your home? Have you ever been to a library? If there was one in your community do you think you would visit and borrow books? Do you think it is important to read books? Can you talk about why? What sorts of songs and stories do you you’re your children?

7. Where did you have your babies (in the hospital, at home, at a friends home) and who helped deliver the baby?
8. Did you receive pre-natal care? __________________________________________.
If yes, where and by whom? ________________________________________________.

9. Did you breastfeed your children and to what age?
_______________________________________________________________________

10. Do you want to have more children? Do you practice any family planning? Is yes, what methods do you use? How often? What are the barriers if you do not use it?
_______________________________________________________________________

11. Do you have a latrine? A bathroom inside? Running water? A pila?
_______________________________________________________________________

12. Where do you obtain your water? How do you assure it is potable? Can you show me?
_______________________________________________________________________

13. What type of food do you eat during the day? How many times a day do you eat? Does your child eat? Where do you get your food from? Do you have a garden or food bearing trees?
_______________________________________________________________________

14. What are the different ways you let your children know they did something in appropriate they have made a mistake or misbehaved? What sorts of behaviors do you consider inappropriate?
_______________________________________________________________________

15. Are your children registered with the municipality? Would you like them to be registered? Why or why not? Which children are and which ones are not? Are you registered?
_______________________________________________________________________
16. Do you talk with other adults during the day? Whom, where? How often? What sorts of conversations do you have?

Overall hygiene of house (circle) 1 2 3 4 5
Overall hygiene of family (circle) 1 2 3 4 5

Fecha: Tema por charlas:

Agua potable (checking for potable water – date taught – dates checked)

Alguyen enfermo? (each time--who is sick) and talk about what they can do for fever, diarrea, use Where there is no doctor as a resource.

Alternativas a castigo fisico (alternatives to physical punishment)

Cognitive development of children and how to support this development

Conexión entre democracia y desarrollo de los ninhos (connections of democracy and development of children)

Cuidado prenatal (pre natal care)

Depresión maternal (maternal depression, post partum blues--and what to do)

Desarrollo social y emocional de ninhos (social and emotional development of children)

Development milestone check and explanation

Diarrea (diarrea)

Enfermedades de transmisión sexual (sexual diseases and protection)

Escuela (the importance of school and education--both formal and informal)

Explicar PIEAT (explanation of the PIEAT program)

Fiebre (fever)

Higiene dental (dental hygiene)

Hora historia (story hour)

Importancia de crear relaciones (importance of creating relationship)

Lactancia materna (nursing)

Language development of children and how to support the development

Lavarse las manos (why it is important to wash your hands)

Lectura (reading and the importance of learning to read)

Malnutrición (malnutrition check and information on the development of children)

Motor development of children and how to support this development
Nutrición (what is proper nutrition for development, and prenatal nutrition)

Que hacer con una gripe (what to do with a cold, asthema)

Quien vive en la casa? (initial intake)

Responsive care for you infant and toddler

Temperamentos de los niños (what are temperments and why they are important for parents to know)

Violencia domestica (domestic violence, the cycle of abuse, power and control)

Why and how to play with your child, when there is so much work each day.

Developed by: Deborah Young
Formulario: fechas de visitas; inicial ____________
Apellido: ____________________________________

Dirección: ____________________________________

Seguimiento _______ _______ _______ _______ _______ _______

1. ¿Quién vive en la casa? nombre/edades?

2. ¿Está alguien enfermo en casa? ¿De qué? incluyendo discapacidades explicar? Cuáles son las enfermedades más comunes en su casa?

3. Si hay niños ¿Cuántos van a la escuela? ¿Donde están los niños de 0-5 años de edad durante el día? ¿Qué los cuida? ¿Es esto adecuado para usted? ¿Le gustaría tener otor arieglos? ¿Qué tipo de arieglos le gustaría ver? ¿A que edad cree usted que los niños pueden quedarse solos en casa?

4. ¿Dónde trabajan los adultos? ¿Cuántos niños trabajan? ¿Cuál es la paga?

5. ¿Qué prácticas de seguridad comunitaria cree usted que son importantes para sus niños? ¿Son practicadas en su comunidad? ¿Si no, que piensa? ¿Hay algunas que a usted le gustaría?

6. ¿Quiénes saben leer? ¿Hasta qué grado asistieron los adultos a la escuela? ¿Tienes libros en su casa? ¿Ha estado en una biblioteca? ¿Si hubiera una en su comunidad cree usted que la visitaría y prestaría libros? ¿Puede hablar de ello? ¿Qué tipo de cuentos y conciones comparte con sus niños?
7. ¿Dónde tuvieron sus bebés (en el hospital, su casa, la casa de un amigo) y quién ayudó en el parto? ¿Recibió cuidado pre-natal? Describir por favor.


8. ¿Recibió cuidado prenatal? _______ si, ¿dónde? ¿y por quien?


9. ¿Dio el pecho a su bebé? ¿Hasta qué edad?


10. ¿Quiere tener más niños? ¿Planifica? ¿Usa anticonceptivos? ¿Qué métodos usa? ¿Dónde recibir estos anticonceptivos? ¿Con que frecuencia? ¿Cuáles son los riesgos si no se usan?


11. ¿Tiene una letrina? Baño, inodoro? pila?


12. ¿De dónde obtiene su agua? ¿Puede describir que es el agua potable? ¿Cómo hacer el agua es potable? ¿Muestre por favor.


13. ¿Qué tipo de comida come durante el día? ¿Cuántas veces come al día? ¿Cuántas veces comen sus niños el día? ¿De donde obtiene su comida? ¿Tiene un huerto o arboles frutales?


14. ¿De qué manera le dice a sus niños que han hecho algo inapropiado o que han cometido un error o se han portado mal? ¿Qué tipo de comportamiento considera usted que es malo?
15. ¿Están sus niños registrados en el registro civil de las personas? ¿Le gustaría que estuvieran registrados? ¿por qué? ¿cuáles niños están registrados? ¿Está usted registrado?

16. ¿Habla usted con otros adultos durante el día? ¿con quién? ¿Dónde? ¿con qué frecuencia? ¿de qué hablan?

| Grado de higiene de la casa y la familia? (5 es muy limpio) |
|-------------|-----|-----|-----|-----|
| Casa        | 1   | 2   | 3   | 4   | 5   |
| Familia     | 1   | 2   | 3   | 4   | 5   |

Fecha: Tema por charlas:

- Agua potable (checking for potable water – date taught – dates checked)
- Alguen enfermo? (each time – who is sick) and talk about what they can do for fever, diarrhea, use Where there is no doctor as a resource.
- Alternativas a castigo físico (alternatives to physical punishment)
- Conexión entre democracia y desarrollo de los niños (connections of democracy and development of children)
- Cuidado prenatal (pre natal care)
- Cuidado reflectivo (Responsive care for you infant and toddler)
- Depresión maternal (maternal depression, post partum blues--and what to do)
- Desarrollo de conocimiento, Cognitive development of children and how to support this development
- Desarrollo físico (peso y altura) (wight and height)
- Desarrollo de el lenguaje Language development of children and how to support the development
- Desarrollo motor (Motor development of children and how to support this development)
- Desarrollo social y emocional de niños (social and emotional development of children)
- Diarrea (diarehea)
- Enfermedades de transmisión sexual (sexual diseases and protection)
- Escuela (the importance of school and education--both formal and informal)
Estapa de desarrollo Development milestone check and explanation
Explicar PIEAT (explanation of the PIEAT program)
Fiebre (fever)
Higiene dental (dental hygiene)
Hora historia (story hour)
Importancia de crear relaciones (importance of creating relationship)
Lactancia materna (nursing)
Lavarse las manos (why it is important to wash your hands)
Lectura (reading and the importance of reading to read)
Malnutrición (malnutrition check and information on the development of children)
Nutrición (what is proper nutrition for development, and prenatal nutrition)
¿Por qué jugar es importante? (Why and how to play with your child, when there is so much work each day)
Qué hacer con una gripe (what to do with a cold, asthma)
Quién vive en la casa? (initial intake)
Temperamentos de los niños (what are temperaments and why they are important for parents to know)
Violencia doméstica (domestic violence, the cycle of abuse, power and control)
Visita inicial

Notas para visita su casa en el futuro:

Notas para visita su casa en el futuro:

Developed by: Deborah Young
INTERVIEWER: Observations after the interview

Respondent:
Age __________
Gender __________
Relationship to head of household __________
Language of interview ________________________

How long did the interview last?
Start time ______ Finish time ________ Total time (minutes) __________

How did the respondent react to this interview?
  a. [ ] Seemed to enjoy it
  b. [ ] Did not seem to either enjoy or dislike it
  c. [ ] Seemed to dislike it
  d. [ ] Other (specify) ________________________

Openness of the respondent
  1. [ ] Open and honest
  2. [ ] Reluctant on some questions (specify which ones) ________________
  3. [ ] Refused to participate
  4. [ ] Unreliable (indicate why) __________________________
  5. [ ] Other (specify) _________________________________

Did this respondent have any problems in understanding questions so that you had to repeat or rephrase them?
  1. [ ] NO
  2. [ ] YES, with a few questions
  3. [ ] YES, with many questions
  4. [ ] YES, with most questions

What were the main causes of any difficulties?
  1. [ ] Difficult questions
  2. [ ] Respondent's lack of education
  3. [ ] Language difficulties
  4. [ ] Conditions where the interview took place
  5. [ ] Lack of privacy
  6. [ ] Other (specify) _____________________________

Which sections of the interview were most difficult with this respondent?

______________________________________________

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Any other comments?

Field edited by _________________ Date edited ________

Developed by: Deborah Young
APPENDIX D

HYGIENE ASSESSMENT SURVEY
ENTREVISTADO: ___________________________  FECHA: __________

SALUDO Y PRESENTACIÓN

Buenos días, Sra. somos del PIEAT y quisiéramos que nos brinde unos minutos de su tiempo para hacerle unas preguntas que son importantes para el programa de PIEAT, por eso le agradeceríamos que sea sincera en sus respuestas, todo lo que usted nos diga será totalmente confidencial.

(En caso de que no se encuentre la persona que cuida al niño pasar a otra casa. Pero regresar más tarde o otra vez).

(a) Identificación y composición del hogar

1. Cuántos niños menores de 5 años hay en su casa? ________ Que edad tiene el menor de ello(s)? ________ ¿Usted que es de ese niño(a)? 1. Madre () 2. Hermana () 3. Abuela () 4. Otro _____


3. ¿Le molesta la cantidad de tierra y polvo a su casa? 1. Si () 2. No ( ) Pase a la pregunta 8

4. ¿Por qué le molesta? 1. Por que tiene que limpiar más ( ) 2. Porque afecta la salud () 3. Porque todo se ensucia ( ) 4. Otro ____

5. ¿En qué lugar de su casa hay más tierra o polvo? 1. Sala () 2. Comedor () 3 Cocina () 4. Dormitorio () 5. Toda la casa ()

6. Por dónde entra más el polvo a su casa? Marque una sola respuesta) 1. Rendijas () de: Pared () Techo () Puerta () 2. Otras: ________________

¿En este momento podría usted lavarle las manos a su hijo más pequeño? (Observar y marcar en el cuadro las opciones). Si no puede decirle: ¿Podría entonces explicar como lo hace desde que empieza hasta que termina?

7. Fuente de agua Que utiliza Secado
   () 1 Caño
   () 2 Lavatorio c/ agua
   () 3 Lavatorio / jarra a chorro
8. ¿En qué momento le lava las manos a su niño más pequeño? No decir las opciones (Preguntar ¿Qué más? Anotar la 1º, 2º y 3º respuesta insistida por favor).

9. ¿Acostumbra a lavar siempre los juguetes del niño(a)?
   1. Si () 2. A veces () 3. No () Pase a la pregunta 14

10. ¿Cada cuánto tiempo los lava?

11. ¿Cómo lava los juguetes? 1 Detergente / lejía / jabón, agua () 2 Agua sola () 3 Lavaza del lavado de ropa () 4 Trapo húmedo () 5 Otro __________

12. ¿Estaría usted dispuesta a lavar los juguetes de su hijo/ antes de dárselos sobre todo los que más juega? 1 Si () 2 No () 3 Tal vez ()

13. ¿Su hijo más pequeño se muerde las uñas? 1 Si () 2 No () 3 A veces () 4 No recuerda ()

14. ¿Usted que hace cuando ve a su hijo/a más pequeño llevarse los dedos a la boca?
    1. No se lleva () 2. Lo corrige () 3. No le hace caso () 4. Le distrae con otra cosa ()

15. ¿Aproximadamente cada qué tiempo le corta las uñas a su hijo más pequeño?
    6. No recuerda (). Si responde cuando están grandes: Insistir ¿Cada cuánto tiempo?

16. ¿Estaría usted dispuesta a cortar las uñas a su niño una vez a la semana?
    1. Si mucho () 2. Un poco () 3. No ()
17. En verano, ¿Cada cuánto tiempo baña a su hijo más pequeño?
   1. Diario ( ) 2. Interdiario ( ) 3. Una vez a la semana ( ) 4. Otro ____

18. En invierno, ¿Cada cuánto tiempo baña a su hijo más pequeño?
   1. Diario ( ) 2. Interdiario ( ) 3. Una vez a la semana ( ) 4. Al mes ( ) Otro ____

19. ¿En que momento acostumbra a bañar al niño?
   1. Después de jugar ( ) 2. Antes de dormir ( ) 3. Cuando lo ve sucio ( ) 4. Otro ( )

20. ¿Podría explicarnos cómo lava usted sus verduras, Por ejm: Apio, Poro, Culantro y lechuga. Mostrarme por favor. Marcar las opciones.
   Deshoja ( ) 1 Caño ( ) No deshoja ( ) con agua y limón ( ) 3 ¿En una pila? ( )

21. ¿Qué frutas consume más? Enumerar en orden

22. ¿Lava todas las frutas antes de comerlas?
   1. Si ( ) 2. Algunas ( ) 3. No lava ( ) 4. No porque las pela ( )

23. ¿Qué frutas no lava? ____________________________ ¿Por qué?

24. ¿Cómo las lava? 1. Directo en el caño ( ) 2. En la pila ( ) 3. Otro ______

25. ¿Cuándo lava los objetos de cocina, por ejemplo cucharones, coladores, ollas y otros objetos de cocina? 1. Después de usarlos ( ) 2. Antes de usarlos ( ) 3. Antes y después de usarlos ( ) 4. No cocina en casa ( )

26. ¿Dónde guarda estos objetos? 1 Sobre la mesa ( ) 2. En un cajón ( ) 3. Colgados en la pared ( ) 4. En un repostero cerrado ( ) 5. En un repostero abierto ( ) 6. Colgados/ y en cajón ( ) 7. En Escurridor cubierto ( ) 8. En escurridor descubierto ( ) 9. En un tablero debajo de la mesa ( ) 10. Otro ______

27. ¿Dónde guarda los platos, tazas y cubiertos después de lavarlos? ¿Es el escurridor cubierto? ¿Es el repostero cerrado? 1. En un escurridor cubierto ( ) 2. En un escurridor descubierto ( ) 3. En un repostero cerrado ( ) 4. En un repostero abierto 5. Otro

28. ¿Tiene agua en su casa? Caño 1. Si ( ) 2. No ( ) Pasar a la pregunta
29. ¿Algún miembro de la familia trabaja en los finca de tabaco o trabaja con que Sí pero no vive con nosotros ( )

30. ¿Cree Uds. que los pesticidas y fertilizas cause daño? 1. Si ( ) 2. No ( ) Pasar a la pregunta


33. ¿Cómo puede saber que su niño tiene los pesticidas y fertilizas? 1. Examen de sangre ( ) 2. Examen médico ( ) 3. Por los síntomas 4. ro ____________ Si se le informa que en Centro de Salud se va a hacer esta prueba,

34. ¿Llevaría usted a su hijo para que le hagan la prueba? 1. ( ) No ( ) Por qué? _________________________________ 3. No sabe/NR ( )

35. ¿Qué tanto estaría interesada en que le hagan esta prueba a su niño cada seis meses? Leer opciones: 1. Mucho ( ) 2. Algo ( ) 3. Muy poco ( ) 4. No sabe/nr ( )

40. Dirección: ________________________________

¿Cómo es el suelo de los ambientes de la casa?  
Tierra 
Cemento  
Madera  
Sala  
Comedor  
Cocina  
Dormitorios  
Otro

¿Cómo son las paredes de la casa?  
Tablas de madera  adobe  cemento  Otro  
Sala  Comedor  Cocina  Dormitorios  Otro
41. ¿Es esta casa también una tienda? 1. Sí () 2. No ()

42. ¿Observó tierra o polvo en los muebles? 1. Poco () 2. Mucho ()

43. Para el miembro de PIEAT: Qué es su más de toda opinión de la higiene en casa. 1. muy sucio () 2. mancha algo () 3. limpia algo () 4. Muy limpio ()

Despedirse. Agradecer el apoyo recibido y hacer próxima fecha para visita.

Firma

PIEAT __________________________ Clientes __________________________

Developed by: Deborah Young
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