

SOCIOCULTURAL INFLUENCES: EVALUATIONS OF INDIGENOUS CHILDREN FOR
SPECIAL NEEDS IN RURAL CENTRAL MEXICO

by

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A Dissertation Submitted to the Faculty of the
DEPARTMENT OF DISABILITY AND PSYCHOEDUCATIONAL STUDIES

In Partial Fulfillment for the Requirements
For the Degree of

DOCTOR OF PHILOSOPHY
WITH A MAJOR IN SPECIAL EDUCATION

In the Graduate College

THE UNIVERSITY OF ARIZONA

2010

UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

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ACKNOWLEDGEMENTS

This dissertation is the result of a vow I made in 1967; it was a united effort over many decades. Untold hours of effort and patience from my family, dear friends, colleagues and collaborators were blended into this final project that took place far outside my comfort zone. With bountiful gratefulness, I acknowledge the contributions of the following individuals in the completion of my Ph.D.:

Dr. Todd Fletcher, my doctoral and EdS advisor, colleague, collaborator, and fellow visionary who has been my guide. We will continue to collaborate on how to provide opportunities for the world's children. I would like to thank you for always expecting the best from me while allowing self-directed investigations and exposure to the most learned experts. I promise to improve my Spanish.

Dr. Silvia Romero, my co-chair and second minor advisor, for making sure I was always culturally sensitive and academically supported inside Mexico. She watched me stumble as I learned to be sensitive to culture and language, but she never let me fall. She critiqued my writing and data with precision and clarity.

Dr. Nancy Mather, whose work I studied work long before I met her or attended her classes. Her support was always one hundred percent. The honor of having her on my committee is immeasurable. I owe my deepest appreciation and gratitude for your generous support and guidance through electronic means as I worked so far from my academic core.

Dr. Alberto Arenas, my first minor advisor, I am deeply appreciative to for his blend of cultural and ecological awareness within Mexico. He understands my passion for more research of Mexican ecological applications and within the entire university; only he understood my eco-passion and was fully supportive of it.

Dr. Mary Carol Combs, my cultural advisor for the last four years. Her reading list was as perfect as the personal encouragement she gave to me from the first day we met. She believed in my passion to finish when others doubted me.

Dr. Stephanie McFarland, whose consistent encouragement I am deeply indebted to. She pointed me in the right direction for the resources needed by my students with severe and profound challenges while living in third world conditions; they are even more indebted to her than I am.

I thank my entire committee for not giving up on someone with more enthusiasm than youth. I warmly thank Cecelia Carlon, my friend and cultural advisor, for making sure no one lost sight of me. She is an educated grandmother, like me who is well organized in business and passionately loves Mexican children as much as I do. Mike Renning for always solving problems for me, and I also thank Dr. Marg Csapo for her on-site advice and off-site proof reading of this entire document.

I would like to thank my husband, Donald James Mackenzie, and my soul sister, Jolene Gailey, for always keeping their eye on the academic goal and meanwhile overlooking my daily faults.

I would like to thank my friends, volunteers, and university students for humoring my frequently overwhelming enthusiasm and often volunteering to teach "my" kids, the rural children who are my neighbors in Central Mexico.

DEDICATION

To the children who have touched my life throughout my life, especially those who face the daily challenges of disabilities, of low socio-economic means and of the abuse often associated with such an upbringing or who struggle to communicate and thrive in an unforgiving, intolerant and judgmental world.

To the Virgin of Guadalupe who spoke to my soul during my second visit to Mexico City: she commanded of me, "Care for My children." I have followed that command to the best of my physical, mental and emotional abilities.

To my husband, Donald James Mackenzie, who has never failed to believe in me no matter what hardships my academic pursuits have caused him. He has rescued me from the depths of despair when I realized what little can be done to change the destiny of children who have touched my life, but that I must never stop trying.

To my soul sister, Jolene Gailey, who has been my voice to the children, their mothers, their fathers and other family members who have touched my life within Mexico. Additionally, she has become the quality teacher for rural Mexican students that I strive to one day to become.

To Javier Aguirre, his family and my neighbors for being accepting of my falling in love with their homeland, moving onto their family's land and speaking their language poorly. They saw through to my heart and forgave me. I will always love and respect them for that consideration.

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ABSTRACT

This study examined indigenous infants, children, and youth in rural central Mexico for developmental delays by using a mixed methods approach. A two-person team consisting of a researcher and a translator completed this study. They conducted observations of 665 minors and interviews with their caregivers. A self-designed rubric was the guide to evaluate children using standards previously researched, developed and tested during the researcher's employment as director of a bilingual school in the United States (USA). This tool was used to evaluate the children, ninety-five percent of which were of Mexican heritage. The tool was modified to meet the needs of indigenous participants within this study in Central Mexico. This study found that the identification of developmental delays or special needs using traditional assessments might fail to take into account sociocultural factors (Baez, 2002; Cattey, 1980; Kelly, Sacker, Schoon, and Nazroo, 2006; Ogbu, 1992b; Rogoff, 2003) present in indigenous rural Mexican farm or ranch communities ('*campos*'). Data suggested that Native Indian or indigenous ('*campesino*') parents or other caregivers struggle with self-esteem issues related to class status thus failing to advocate for themselves or their children. Data additionally implied that caregivers lack access to social services including those aimed at working with developmental delays, special needs, (Fletcher, 1999; Forlin, Cedillo, Romero-Contreras, Fletcher, and Rodriguez, in press) and children without disabilities. Cultural factors maintained the status quo: the upper class held power, the middle class struggled, and the '*campesino*' continued to lose vital assets necessary to meet basic human needs. The findings identified a disproportionate number of developmentally delayed children,

mainly due to malnutrition or other environmental influences; resulting from class status and/or lack of access to information. '*Campesino*' participants from in eighteen rural Central Mexican facilities were studied. Participants represented over one hundred '*campos*.' This study utilized an emic ethnographic approach (researcher being an "insider" researcher-participant) employing both qualitative and quantitative methodology. Results indicated that factors related to social status affected rural Mexican children's ability to acquire the basic nutritional intake necessary to achieve academic success and/or social elevation in Mexico or elsewhere due to the caregivers limited ability to improve the quality of life for his/her '*campesino*' children.

CHAPTER 1: INTRODUCTION

“We need to lean forward, anticipate, prepare, and to the extent we can, mitigate the dangers involved, not only for us but for our children and their children” (Howard Frumkin, MD, Director, National Center for Environmental Health, n.d.).

Introduction

Sociocultural, according to Vygotsky (n.d.; Maccarelli, 2006), is “the genetic law of cultural development. Any function of a child’s cultural development that appears on a social plane while simultaneously appearing on a psychological plane is sociocultural.”

A researcher from outside the Mexican culture conducted this study to evaluate the physical and emotional development of children residing inside remote Mexican ‘campos’ (remote villages). The question of researcher bias, lack of cultural understanding, or other factors skewing subjective assessments was considered.

Sociocultural influence on indigenous children residing in rural Central Mexico is composed of a complex web of historical as well as current variables and roles being repeated by those whose cultural heritage is scripted and inherited (Kottak, 2008; Ruiz, 1992). Researchers have found that sociocultural influences affect everything *in the lives of children*:

- 1) from breast feeding patterns (Kelly, Watt, and Nazroo, 2006b), to specific learning disabilities (Mather and Goldstein, 2001; Poblano, Borja, Elias, Garcia-Pedroza, and Arias, 2002),

- 2) from meeting developmental milestones (Kelly, et al., 2006; WHO, 1996), to birth weight or other nutritional factors (Kelly, et al., 2009; Poblano, et al., 2002),
- 3) from learning styles (Cattley, 1980; Garger, 1984; Kozulin, 1998; Ogbu, 1992b; Rogoff, 2003), to overall school success (Flores, Navarro, and DeWitz, 2008; Forlin et al., in press; Ogbu, 1992a),
- 4) from social class status or class status biases (Baez, 2002; Biesanz, Madigan Ruiz, Sanders, and Sommers, 2002; Crosnoe, 2005; Freire, 1970/1993; Rogoff, 2003), to family dynamics (, 2002; McHatton, 2007; McMunn, Kelly, and Bartley, 2008; Middlemiss and McGuigan, 2005; Spence, Najman, Bor, O'Callaghan, and Williams, 2002)
- 5) from career options (Arenas, 2008; Fry, 2009), to educational opportunities (Arenas, 2008; Giangreco, Edelman, Luiselli, and Macfarland, 1997; Moll, 1992b; Monzó and Rueda, 2001; Walker, Greenwood, Hart, and Carta, 1994),
- 6) from gaining literacy (Jimenez, 2000, 2003; Ogbu, 1990; Romero-Contreras, 2006; Saracho, 2007), to self-esteem (González, 2001; González, Moll, and Amanti, 2005; Greenwald and Banji, 1995;),
- 7) from ways of handling stress (Worby and Organista, 2007) to second language acquisition (Dorner, Orellana, and Li-Grinning, 2007),
- 8) and from alcoholism (Worby and Organista, 2007) to single parenthood (McHatton, 2007).

The list is broad and seemingly endless, yet only a few of the reasons are illustrated here. The fact Mexico has “impoverished areas that include rural, indigenous, and poverty-stricken” (Forlin et al., in press, pg. 4) communities has already been

documented; this research was conducted in such documented regions. Nearly all factors found to be significant in my research are environmental influences that possibly could be overcome (Frumkin, 2001) through early intervention childhood and caregiver educational programs. This investigative approach was necessary to reveal the reality of sociocultural influences on indigenous infants, children, and youth (note: in this study the word “children” refers to “infants, children, and youth”) born into and/or residing inside the rural Central Mexico ‘campo.’ Research records reality, and in doing so it provides findings that often replaces myths. If we already knew the answers we would not call it research.

This study was conceived to initiate unbiased *observations and interviews*, in order to (a) determine if developmental delays or special needs were present in indigenous children living in ‘campos,’ and identify them, (b) what educational services were available to indigenous families of children having developmental delays or special needs and (c) how caregivers were coping. *Children were analyzed* for developmental delays using both quantitative and qualitative analysis from observations of them and interviews with their caregivers. *Caregiver’s were analyzed* (qualitatively) specifically on how they coped (1) with children having developmental delays or special needs (2) with the lack of educational services available for children with or without disabilities and (3) with other social and psychological (sociocultural) influences affecting their lives as caregivers residing in the ‘campo.’ *Data was analyzed* (a) to determine the outcomes (identify exceptionalities) of the observation or interview questions asked, (b) to report what was learned in the process, and (c) to present what information could be applied to practical situations in rural Mexican communities. This study is looking, secondarily, for

answers to the questions of what can be done to change the trend of academic failures (not graduating from high school) among Mexican children and reduce the number of Mexican students in special education programs in the USA. The U.S. Census Bureau (2009) reported that about one of every four children under the age of five living in the USA is Hispanic, predominately from Mexico (Child Trends Research Center).

Concerned professional educators are asking the hard questions. Are Mexican parents migrating to the USA because of a lack of educational services for children with special needs? Does Mexico have an unexpected number of unidentified children with special needs? Are the results of diagnosis of Mexican immigrated children in the USA frequently incorrect? Are indigenous Mexican immigrants as children being *labeled* in the USA as having special needs when they are not missing expected developmental milestones within their own culture? Are Mexican/Latin youth failing to graduate from USA high schools because of inaccurate *labels* assigned to them years earlier? Perhaps a misunderstanding of the Mexican culture has created a trend of a special needs *label* attached to Mexican immigrants as children when that *label* is not appropriate.

Many of the existent myths related to Mexican's lifestyles or sociocultural influences are clearly due to a lack of understanding of the Mexican culture, especially in indigenous rural areas. The rural area which was researched was rich with indigenous groups: Guamares, Chichimecas, Guachichile, Otomías, Purépecha or Tarascan, which includes Celaya, Acámbaro, and Yurirapúndaro. The only living indigenous language in the State is Chichimeca-Jonaz, but it has been said that the people of the state "*have inherited the genetic legacy of the original Indian people,*" (Schmal, n.d., pg. 2). With so much native influence, life in rural Mexico is a blend of sociocultural influences that are

embedded in the society's day-to-day existence. Current challenges to the communities struggle to survive from bombardment by external environmental factors influence, bend and may finally change their rich indigenous Mexican cultural practices as elders struggle to keep traditions. Lacking access to continuous world-view updates is one of the realities of life in a rural Central Mexican 'campo' (subsistence farm or ranch community, barrio or pueblo, minimalist shack community or low class status peasant village predominately lacking utilities, insulation, doors, windows, and/or other common residential dwelling attributes), but so is a strong desire to retain traditions. Both external environmental factors and internal community practices reflect components of myths related to both lifestyles (Forlin et al., in press). Misunderstanding is likely universal, by both those living inside the 'campo' and those living elsewhere. Perpetuated myths may be due to ignorance, a desire to create a more captivating story (manipulation), or an outright desire to control another group of people as a means to elevate one's own group identity (Freire, 1970/1993).

A lack of special needs services in rural educational settings (Forlin et al., in press) might be one factor in motivating parents to migrate into the USA; they want educational programs for all their children and special services for those who fall outside normal ranges in one or more areas of development. If this study's data implied an unexpectedly high number of indigenous children with special needs, that might explain some of the motivation of parents to immigrate into the USA that the statistics record as the trend. This migration for better educational services trend would be more likely if the number of identified special needs was elevated beyond the educational resources for children with special needs available to assist parents within Mexico. For those migrating Mexican

parents who risk all for a better educational outcome for their children who become (Hispanic) public school students statistics have been found they are twice as likely as their Caucasian peers to be identified for special needs educational services (The Harvard Civil Rights Project at Harvard University, 2002). A special needs *label* might offer them inappropriate educational services, may lower their self-esteem, may reduce their likelihood of academic success, and in other ways could treat them unfairly. The educational system is already stressed in the USA and bias may interfere with creating a positive educational outcome for those students who have migrated from Mexico. Studies have shown that academic success is often not the outcome of a transition outside Mexico (Forlin et al., in press; Fry, 2009; Lopez, 2009; NCES, 2001; Ogbu, 1990, 1992a, 1992b; Portes, 1999; Rogoff, 2003; Tapia, 1998). Statistics state that nearly half of all Mexican immigrant children living in the United States of America and attending public school did not graduate from high school (NCES, 2001; Ogbu, 1990, 1992a; Ream, 2005; Tapia, 1998) despite the fact that many Mexicans appeared to be motivated since they set life-goals to begin post- high school graduation (Flores, et al., 2008; Lopez, 2009; Urba and Maehr, 1995).

In this investigation, there was no satisfactory educational model appropriate to access this population; therefore, a blend of existing methods and past assessment approaches was developed to meet the assessment parameters. It was named the Child Developmental Checklist - Developmental Delay Analysis (Appendix B). Researcher Kagitcibasi (1996) mentions that it is common for a specialist to look at each component of a child: speech patterns, gross or fine motor skills, emotional responses, and other individual parts of the child, even when that approach might be in direct opposition with

the holistic, functional or situational approach common to the cultural group to which the child belongs. I strongly felt the need to use this approach as my research progressed. My gatekeeper translator, Jolene Gailey (real name), and I interviewed the parents of observed children; while being culturally appropriate and verbally clear, we used a level of language that Spanish language illiterate parents (Ogbu, 1990; Rogoff, 2003) would be more likely to understand. All interviews conducted with the mothers contained the same level of respect for the dignity of the indigenous adult and the children. Meanwhile, I used USA assessment norms to evaluate the indigenous child for developmental delays or special needs. I feared that this approach was biased in its consideration of the child as components to be observed (Appendix C.2, C. 3, E & F), as opposed to a whole person interwoven into a sociocultural lifestyle. I examined and recorded what I saw in the manner I had been taught and practiced so often in the USA.

This study utilized an emic approach, composed of mixed methodologies, qualitative, and quantitative, that were tailored specifically to indigenous people living in the Central Mexico ‘campo.’ According to K. Pike (1954), two perspectives are used in the study of cultural systems: the “outsider” (etic) or the “insider” participant (emic). As an “insider” I only had to enter their homes to learn (Moll, 1992b). I also moved into their lives and into a home among their homes in rural Central Mexico. To the best of my knowledge, every aspect of my new life was lived next door to them. Their drought-torn toxic environment, where raw sewage flowed down the dirt road three days out of seven and into the public water reservoir, was the same water that flowed into my kitchen sink. I existed inside a place where I had to decide how to keep my family safe from disease while using poison non-potable water inside my home. Mothers living near me

struggled to meet their families basic needs for food, clothing, and shelter. The men would nearly offer their souls for a single day's wages to save personal pride and family hardship. Their will, strength, stamina, and adaptively to the hardships within their lifestyle was observed by this curious gringo woman, a woman eager to understand and record what was observed and said. I undertook this research and lifestyle with a high level of commitment, because I was seeking to understand the sociocultural influences on human development that "*can be understood only in light of the cultural practices and circumstance of their communities – which also change*" (Rogoff, 2003). This outsider research team, two people from another culture who now resided inside the culture that was being observed, consisted of Jolene and myself. We had become immersed inside a new culture, for an extended period of time, to learn at a greater depth what was going on from the inside of that culture, at least as much as anyone can when they are not from the culture being observed. We were working side by side on this research project as a way of being in their world, a cultural world far different from our own. We were there as their community adapted to changes imposed on it from the outside world.

This study is highly significant because there is currently a limited amount of research within Mexico assessing for developmental delays, learning disabilities or special needs identification, with results recorded in English (Poblano, et al., 2002). Researchers have proposed the need to understand cultural differences related to the education of children from diverse heritages (Ogbu, 1992b; Rogoff, 2003), but few have identified the actual percentages of children within Mexico needing special educational services (Forlin et al., in press) and translated that information into English within specific categories, for instance the number of Mexican children with reading disabilities

(Poblano, et al., 2002). The aforementioned nearly twenty-percent of children receiving special education services in the USA school systems are of Hispanic heritage, which make the results of this study of interest and recording of the results in English a highly significant asset to administrators seeking more solutions. My collaboration with individuals from Central Mexico included (1) directors of health administration for cities and rural areas, (2) rural medical doctors and other medical personal, (3) parents and other caregivers living in rural ‘campo,’ and (4) 665 minors under rural medical and educational care provided a broad view of rural children’s learning status and a significant sample of current educational exceptionalities.

Throughout this study I drew from past sociocultural research that explained various correlations between living and learning (Fletcher, 2007; Kagitcibasi, 1996; Kelly, et al., 2006; Ogbu, 1992b; PEW, 2009; Poblano, et al., 2002; Post, 2001; Santamaría, 2009). As I felt confident that I had grasped the concepts I studied, I began to interview my neighbors to both confirm the theories I had studied and to make sense of my understanding of what was going on around me within reasonable parameters of cultural awareness. Everything I observed appeared to be another unanswered question to which I was seeking an answer. I focused on what was different from my expectations related to my background (what I know). I did not allow myself to consider the concept of a deficit model of comparing what occurs in the USA as the “right” approach and what occurs in Mexico as having shortcomings, because that approach seemed in direct conflict with genuine cultural understanding.

I had reservations that my practical experience and academic training in the USA may not have prepared me to fairly and accurately assess children for

developmental delays and special needs in a manner culturally appropriately to Central Mexico. I further evaluated my ignorance of the effect of sociocultural influences, both social and psychological factors, on Mexican children that I might not recognize as assets. Assets exist that are appropriate to the 'campo,' like the social aspect of gaining community literacy (knowing what to do and how to act) or the psychological asset of increased self-esteem in a 4 year old correctly watching numerous family goats graze for several hours. This was an area where I lacked depth of understanding. I questioned if I might mislabel sociocultural influences as exceptionalities existing within the children instead of normal day-to-day expectations within the 'campo.' Due to my past observations, I thought that indigenous Mexican caregivers might lack access to valuable information from documented and tested research related to childcare, special education services including early intervention programs and access to helpful scientific information. It might be possible that information already existed related to overcoming sociocultural influences that affect educational advancement.

While confronting my uncertainties, it became clear that as a researcher, I must examine cultural norms to get a more reflective view of the child's development based on the cultural group to which the child belonged (Cattey, 1980; Rogoff, 2003; Rogoff, Mistry, Goncu, and Mosier, 1993; Vasquez, 1994). I spent twelve years preparing to undertake this research by living and working inside a Mexican border town because I first had to gain some cultural insight and understanding (Cattey, 1980; Rogoff, 2003; Schensul, J., and LeCompte, 1999). That preparation resulted in the following two primary objectives:

(1) to identify how cultural influences or factors contribute to a label of developmental delay or special needs when assessing children indigenous to rural Central Mexico who resided in a ‘campo’,

(2) and to identify how marginalized indigenous ‘campesino’ parents living in rural Central Mexico educate their children in the home or advocate for special needs services due to cultural influences or culturally-based norms.

Statement of the Problem

Symptoms or behaviors used by the schools in the USA to *label* indigenous ‘campesino’ children developmentally delayed or having special needs (Artiles and Trent, 1994; Fletcher, 1999) might be the result of cultural influences or culturally-based factors because developmental milestones might vary significantly between cultures. The USA developmental milestone standards might not be suitable for evaluating indigenous ‘campesino’ children. This study aspired to find out if a problem exists and if so if it could be due to biased assessment standards, a lack of cultural sensitivity training for the observer/evaluators, and/or rigid testing materials written in a foreign language. A lack of cultural sensitivity could be a considerable problem because misunderstood cultural influences or culturally based factors may reduce the likelihood of attaining academic success (Cattey, 1980; Lopez, 2009; Ogbu, 1992a; Ream, 2005; Rogoff, 2003; Tapia, 1998); the opposite might be true if cultural influences and/or biases are comprehended.

Means to overcome barriers to academic success.

Was it possible that an unbiased, and to some extent, culturally informed observer could develop a program of culturally sensitive, educationally beneficial, and timely interventions for suspected developmental delays? More importantly, what cultural

influences, factors or culturally-based norms affecting ‘campesino’ children would need to be identified and then addressed in order to result in a positive program of training for the caregivers? It appeared that caregivers needed to know how to help their offspring have successful educational experiences that are both culturally appropriate and educationally beneficial. Such a program might increase the likelihood of academic success (Goldstein and Mather, 1998; Kelly, et al., 2006; Mather and Goldstein, 2001; Reynolds, Temple, Robertson, and Mann, 2001; Rogoff, et al., 1993; Santamaría, 2009). These were the answers being sought in a process evolving within several research projects, this being the first.

Research Questions

The purpose of this research was to address two questions:

1. **Are predominately indigenous infants, children or youths* living in rural Central Mexico ‘campo’ more likely to be labeled developmentally delayed or as having special needs when evaluated by a researcher educated and trained in the USA? Will assessments of Mexican children by a researcher educated and trained in the USA be more likely to ignore the funds of knowledge (Gonzales, Moll and Amanti, 2005) acquired within rural cultural communities? Might these researchers misunderstand cultural influences or other culturally-based factors? *(Guamares, Chichimecas, Guachichile, Otomías, Purépecha-Tarascan: which includes Celaya, Acámbaro, Yurirapúndaro)**
2. **Are predominately indigenous infants, children, and youth* who are living in ‘campos,’ educationally marginalized because of their position of being in the**

lowest socio-economic tier? *(Guamares, Chichimecas, Guachichile, Otomías, Purépecha-Tarascan - which includes Celaya, Acámbaro, Yurirapúndaro)

Researchers have concluded that ethnic or cultural influences, which are environmental, not genetic, in nature, have resulted in significant differences in the health and well being of their children (Berman, Jonides, and Kaplan, 2008; Delpisheh, Kelly, Rizwan, and Brabin, 2006; Kelly, et al., 2009; Kelly, et al., 2006; Kelly, et al., 2006b; McMunn, et al., 2008). Research leaves little doubt that disadvantaged parents in any country may be deprived of the necessities for uninterrupted nutritional contributions, hygienic environments, and adequate health services for their indigenous children. In this study I ask the data to determine if caregivers are equally vulnerable regarding the misunderstanding of cultural influences and it's effect on the assessments for *labels* of developmental delays or special needs. The data may confirm if shortages of appropriate educational opportunities and services for their children exist (Ogbu, 1992b; Rogoff, 2003).

Significance of the Study

Our research team approach was to use a feminist theory framework to study Mexican families in order to observe how assessment of 'campesino' children for special needs was influenced by cultural factors. I found limited research information written in English exists. Researchers since 1990 have overlooked the influence of cultural variables on learning; (Cattley, 1980; Kelly, et al., 2006; Portes, 1999; Valencia, 2002) therefore, this study was warranted. This study contributes to the research pool written in English that would debunk myths about why Mexican students continue to fail academically even when offered the same educational opportunities as those from other

ethnic groups or cultural backgrounds (Forlin et al., in press; Fry, 2009; Lopez, 2009; NCES, 2001; Ogbu, 1992a; Ream, 2005; Valencia, 2002). Researchers writing in Spanish have been prolific, but access to information, as other researchers have found, can be limited by language (Baez, 2002; González, 2001; Rogoff, 2003). ‘Campesino’ children and youths bring their cultural values, cultural influences, cultural factors, and native first language with them when they immigrate into a new country (Baez, 2002; Kelly, et al., 2006; Valencia, 2002). If their cultural values, influences or other factors are typical of educationally marginalized children in their home country, those same cultural values, influences or other factors may move with them into the new environment.

Definition of terms.

‘Campesino’ – A country person, country dweller, peasant, rural farmer or rancher, frequently the resident is also of indigenous heritage. A Latin American Indian farmer; ‘campo’ is Spanish for *field or country* (Merriam-Webster). All definitions applied to the word ‘campesino’ were used within this research report with the highest degree of respect.

‘Campo’ – A field, a non-incorporated rural village, pueblo, community, and/or rural residential grouping of people and animals.

Indigenous - A person whose heritage is native Indian. Research sites included the following indigenous groups: Guamares, Chichimecas, Guachichile, Otomías, Purépecha/Tarascan: Celaya, Acámbaro, and Yurirapúndaro. Of these only the Chichimeca-Jonaz language lives (Schmal, n.d.).

Developmental Delay – A diagnosis of developmental delay typically occurs when a child has failed to meet a predictable milestone or more than one milestone relative to their cultural standards. Identifying that this failure might have a long-term affect on a child's speech and language, fine and gross motor skills, and/or personal and social skills an intervention is normally advised (ERIC, 1999).

The Relationship Factor – This is a phrase used in scholarly papers to explain personal interactions between people (Spence, et al., 2002). This study uses this phrase to explain the primary force observed to be of the utmost importance in Mexican communities: caring for and personal histories with others: family, extended family, and friends. In Mexico, relationships are held of higher importance than money, employment, status, power, position or any other distraction requiring time, energy or other resources (Ogbu, 1992b; Rogoff, 2003; Valdés, 1996; Valenzuela, 1999). The Mexican culture deifies ancestors (Mackenzie, 2008); all domestic duties, income producing responsibilities, and other roles must be referred to with great caution and extreme cultural sensitivity (Saracho and Martinez-Hancock, 2004) because saving face and preserving pride are of paramount value (Mackenzie, 2008; Valdés, 1996). Passing a person on the street or in a public bathroom requires asking permission of the other person: “*Con permiso*” (with your permission). Entering a doctor’s office or other public space requires everyone in the room to receive a general greeting and eye contact.: “*buenos dias - buenas tardes - buenas noches*” (good day/good afternoon/good night) (Valdés, 1996). Stronger than the automatic act of reaching to return a handshake in the USA, people of all ages will respond automatically when greeted in this manner using the same greeting. Anytime a person enters a room or a distance of twenty feet away a greeting initiates, even outdoors

in undefined spaces. There is often a shortage of economic resources in Mexico, but there is no shortage of respect and an acknowledgement of respect for interdependence and the role it plays as a sociocultural influence (Ogbu, 1992b; Rogoff, 2003; Valdés, 1996; Valenzuela, 1999; Velez-Ibanez, 1992; Zembylas, 2002).

Scope of study.

Field notes influencing this study related to general cultural observations begun in Central Mexico in May 2005 and continued for four more summers of observations in rural and urban Central Mexico 2005-2008. Internal Review Board (IRB) approval for the pilot study began May 16, 2008 for one year. The second IRB approval began June 9, 2009, however, casual local conversations, visits with Mexican administrators and medical doctors, public health clinic or community center visits occurred November 2008 until January 2010; all contributing information to field notes within the pilot study and this study. Additional special needs educational information gathered from casual interviews with Mexican nationals September 1996 until May 2008 either in northern Mexico or on the Arizona-Mexico border influenced what questions were asked of locals in rural Central Mexico to identify similarities and differences in educational services available for those with special needs which enhanced the depth and width of my understanding of Mexican caregivers challenges on both sides of the border (Giangreco, et al., 1997).

Research Limitations

The focus of this research was the greater rural areas around only one major city in one state within Central Mexico. Mexico is a very large country with many variations; this was therefore a limited view during a time of challenging factors mentioned (pg. 26).

Secondly, I am a limited second language learner who was of a different cultural background and I was born in New Mexico, not in Mexico; that factor had to be considered because "language sets the stage for inclusion and exclusion," (Baez, 2002, pg. 1). Contemplating reliability, factors to consider were that I, the person who conducted this study, had influential variables including maturity. I also had compassion toward the challenges of Mexican special needs students in public schools in the United States (Artiles and Trent, 1994; Fletcher, 2007) and a history of volunteering as a teacher on the Arizona-Mexico border and in Central Mexico. *Mexico is a country where the relationship factor is paramount and those experiences must be weighted appropriately* (Mackenzie, personal journal, 2008) because who I am and how I reacted emotionally to those participants around me influenced their cooperation and willingness to participate (Behar, 2003; Coffey, 1999; Emerson, Fretz, and Shaw, 1995; Mackenzie, 2007, 2008; Schensul, et al., 1999; Spatig, et al., 2006).

A significant limitation throughout this study was the inability to take extensive handwritten notes onsite due to a permanent medical dominant hand disability since 1991. I often had to rely on others recording events by handwriting in English or Spanish (handwritten recording of exactly what was heard and translated later). I had written in my proposal that the IRB allow photography, audio records (cassette tape recording) of interviews or photographic and audio records (digital video), but those requests were not approved. In hindsight, assistance from the University of Arizona Disability would have been appropriate for me to request since they have medical records on file at in their office verify the handwriting disability. This approach will be utilized in future studies. I plan to continue to research in Mexico and must be allowed to be precise in what is being

said by the participants within open-ended questions and with other informants. Perhaps my disability provided me insight into their realities.

I am confident that this study would have been greatly enhanced by photo, audio or video recorded references due to the limited literacy in the Spanish or English language (Forlin et al., in press; Jimenez, Moll, Rodriguez-Brown, and Barrera, 1999; Jimenez, 2000, 2003; Ogbu, 1990; Romero-Contreras, 2006; Saracho, 2007) skills of the mothers, and the necessity of overcoming heavy dialect differences when translating replies given in interviews. Additionally, a small percentage of the mothers, estimated to be less than five percent, appeared to have limited use of the Spanish language (Rogoff, 2003) and instead had a mastery of another language. There are 68 native tongues having a total of 360 dialects inside Mexico (Forlin et al., in press) and had there not been some participants who had no Spanish language it would have been unusual. Our experiences could have been verified with a video recording and an expert to analyze the video if International Review Board (IRB) had approved those electronic tools. In these cases a nurse was asked to verify answers to the questionnaire or the items were left blank if no one was available to assist with translating. Fortunately, photos taken during the pilot study when there were no restrictions forbidding visual records, could verify the level of poverty among these indigenous ‘campesino’ communities. The level of poverty in Mexico's indigenous ‘campesino’ communities was also frequently discussed in the field notes and findings from other researchers (Forlin et al., in press; Poblano, et al., 2002).

There were additional personal physical and social challenges: (1) moving into rural Mexico and (2) gaining trust within the local community were significant obstacles (Saracho and Martinez-Hancock, 2004), (3) as was observing a foreign culture (Rogoff,

2003), (4) working with a translator (Behar, 2003), (5) learning a new language (Saracho and Martinez-Hancock, 2004), and (6) not being able to read research in the Spanish language. Researcher Amanda Coffy (1999) reminds us "the ethnographer-as-hero surrenders love, family and familiarity in order to confront an unknown culture" (1999, p. 20). It is unlikely that Coffy is implying that all researchers are heroes, however she may be making the point that to research for an extended period of time within a foreign environment requires uncomfortable distancing from those whom the researcher loves, the comforts of their home, and the support of immediate family. An important aspect of time, which was necessary to develop trust (Moll, et al., 1992) evolved into time to make certain that a significant part of the academic research was not overlooked and that something of value was the result.

Also eight environmental changes occurred that were extreme, unique, and that focused negative international attention on Mexico after November 2008 when my topic was approved. These factors changed the way the Mexican health department administrators managed clinic visits for everyone, including the ones I had been approved to attend. These eight changes are: (1) The former Mexican foreign minister reported in December 2009 more than 6,500 fatalities in that year (more than 15,000 over three years) due to drug wars (Castaneda, 2009). (2) The end of 2009 Mexico ranked sixth highest in crime rates out of sixty-two countries (NationMaster, 2009). (3) March 2009 and early April (CDC, 2009) the Swine Flu (also known as H1N1 flu) scare occurred. (4) By September 2009 foreign tourist warnings to avoid Mexico resulted in 30,000 service-related jobs being lost in Puerto Vallarta, a Mexican beach resort area (Mackenzie, personal journal, September 24, 2009; (Evans-Pritchard, 2009) related to the flu scare. (5)

Firmly entrenched socioeconomic problems (Forlin et al., in press; Tapia, 1998; Walker, et al., 1994) within Mexico due to low wages (Fitz-Gerald, 2009), (6) the worst economic position since the 1930's (Evans-Pritchard, 2009) of the primary economic benefactor of Mexico, the USA, where worker remittances account for the second largest source of national income after oil (Villarreal, 2009) and 75% of direct investments originate and 85% of exports are sent (Fitz-Gerald, 2009), (7) globally the economic downturn was increasing (Forlin et al., in press; Watts and Robb, 2008) while (8) regionally the summer of 2009 brought what was referred to as *Historic Drought* conditions. Dr. Stahle reported it as "one of the worst droughts in Mexico in the instrumental record," (Arkansas, 2009). Therefore, I was observing the lowest social class (Ogbu, 1992a; Rogoff, 2003) in Central Mexico adapt to the worst local, regional, and global conditions for decades.

Organization of study.

Chapter One narrates the historical background of this study and the necessity to locate developmental delays or other special needs (as early as possible). Additionally, this chapter explains the research problem and raises questions arising from the problem, states the purpose of the study, presents the scope of the study, gives definition of the terms and not only the purview of this study but the ultimate goal behind its inception (Kelly, et al., 2006; Landsdown, et al., 1996).

Chapter Two reviews literature on the vast area of assessment for special needs and cultural influences affecting learning inception (Kelly, et al., 2006; Landsdown, et al., 1996) and is interwoven with the most current studies on the results of working with

disabled or marginalized Mexican students (Kelly, et al., 2006; Poblano, et al., 2002; Saracho and Martinez-Hancock, 2004).

Chapter Three describes the subjects, locations, instruments used, the procedure for collecting both quantitative and qualitative data, procedures used to summarize the data.

Chapter Four presents observations by the researcher in addition to parent interviews and notes on child assessments; this section incorporated limited field notes observations when clarity was in question.

Chapter Five discusses the results, answers the questions presented, discusses conclusions implied by the data, the limitations of the study, implications for future research or field practice and presents a discussion of the findings. Additional discussion covers implications for additional research, limitations for the methods used for research, overall conclusions and recommendations for educational practice.

CHAPTER 2: LITERATURE REVIEW: WHY ASSESS INDIGENOUS CHILDREN FOR DEVELOPMENTAL DELAYS?

"The forces of the past still live on and exert their influence on us, though we may not be consciously aware of this. It is frightening to realize in full depth what it means to be a human being: that is, to realize that we are all imbedded in the flux of generations, whose legacy of thought and feeling we irrevocable carry along with us." C.W. Ceram (1949)

The birth of a child within any culture is a time of extreme anticipation and anxiety. Every parent or other relative hopes for a textbook perfect normally progressing birth for the mother and the arrival of a healthy child. The newest member of any family tree carries the genes of those conceived generations before them, inherits their lineages *and their changing participation in the sociocultural activities of their communities which also change* (Rogoff, 2003, pg. 11). In economically advanced countries, parents have health options allowing testing and pre-planning before pregnancy, including in uterus options for medical corrections before birth. Unfortunately, those who live in developing countries, like Mexico, have fewer resources and therefore less access to personal healthcare information, basic medical care, appropriate nutrition and prenatal care. As a result, mothers run more risks of complications during childbirth and their children are more likely to have unplanned developmental delays. 'Campo' residents, living in poverty, are more likely to be malnourished or have other medical shortfalls; these factors statistically contribute to the likelihood of an abnormal birth, such as an infant who was born with a less than perfect Apgar score and/or an infant with

developmental delays (Kelly, et al., 2009; Kelly, et al., 2006; Ogbu, 1990, 1992a, 1992b; Poblano, et al., 2002; Portes, 1999; Rogoff, 2003; Tapia, 1998).

‘Campo’ caregivers, who lack access to first quality medical care and too often have no options for any medical care, run the risk of missing symptoms of a developmental delay or of accepting any abnormality they do notice as fate (an acceptance commonly based on religious beliefs) (Mackenzie, personal journal, December 12, 2008). Perhaps taking no physical or medical actions to improve the abnormality (Ogbu, 1992b; Rogoff, 2003). Additionally, subtle or even mild abnormalities may not be detectable immediately after birth. Infants need frequent medical monitoring frequently, at least for the first few months, if out of range conditions are to be identified (Kelly, et al., 2009; Kelly, et al., 2006; Poblano, Marquez, and Hernandez, 2006). When many factors reduce access to care, caregivers may accept solely alternative healing or religious ritual as the only option available to them (Mackenzie, personal journal, December 12, 2008). Although intervention may be noninvasive and inexpensive, caregivers may ignore subtle symptoms. Habitual lack of transportation to a clinic or financial resources to pay a doctor negates a quick action, often regardless the obvious urgency of the disability. Assuming that early identification of medical problems in infants reduces long-lasting effects on child development, it is beneficial to locate and intervene quickly and aggressively when an infant does not respond within normal range expectations, though every culture has different *normal range expectations* (Kelly, et al., 2006; Ogbu, 1992b; Portes, 1999; Rogoff, 2003) and that fact may further reduce timely interventions.

Mexico has historically been less aggressive than the United States of America in the identification and placement of special needs children within appropriate special education educational programs (Fletcher, et al., 2003). This is especially true of 'campesino' persons, who are the lowest economic class in Mexico (Post, 2001). Mexico has a shorter history of involvement in special education services and therefore less funding has been appropriated to identifying and overcoming developmental delays. Lack of funding and low socioeconomic status are likely factors influencing the fact that there is a limited amount of research on special education available within Mexico, specifically research conducted inside Mexico by Mexicans, that is also written in English or translated into English (Poblano, et al., 2002). Additionally, medical doctors in Mexico are not extensively trained to evaluate students for developmental delays or other special needs (Fletcher, 1999; Fletcher, 2007; Fletcher and Artiles, 2005; Fletcher, et al., 2003; Forlin et al., in press; Poblano, et al., 2002). Although four tenets were proposed in 1980 by the Ministerial Department of Special Education in Mexico that should have promoted significant changes (Forlin et al., in press) across the country, inclusion for disabled children has not yet occurred.

Theoretical Literature

This first section's focus is on educational services, sociocultural influences and parent's educational expectations. The amount of literature available for those serving Mexicans with developmental delays or other special needs was limited both by the short amount of time that special education services had been legislated (Fletcher and Martinez de Ramos, 2005) and the lack of material written in English or translated into English that was accessible to me for this study. There was a great deal of research written in Spanish

that I was unable to access due to my limited academic ability to read Spanish.

Educational services.

In the 1990s there was a worldwide effort for inclusive education and Chile published Decree #490 in 1994 that had the result of including children with disabilities in mainstream classrooms. The same year the government of Chile (A Latin American Spanish-speaking country that often influences trends in Mexican legislation) passed Law 19284 and their Constitution was amended in 1994 through the General Education Law; these legal changes socially integrated persons with disabilities into mainstream classrooms (Fletcher and Martinez de Ramos, 2005) and made inclusive education for disabled children feasible (Forlin et al., in press). Furthermore, this legislation made it possible for Mexican children with disabilities to attend school like other children (Fletcher and Artiles, 2005). Today that law still lacks the levels of enforcement found in the United States for children with and without disabilities. A comment in Spanish "Entre el dicho y el hecho hay mucho trecho" (Fletcher and Martinez de Ramos, 2005) helps to explain this situation; it means that what is signed into law is quite different from what actually goes on. This is certainly the case regarding special education laws; this fact is illuminated by what one expatriate recently stated: "*In most cases Mexico has the same laws on the books as the United States they just aren't funded to be enforced!*" (Mackenzie, 2007, 2008).

The opinions stated in the previous paragraph and other factors, were confirmed by Ismael Garcia (personal communication, January 26, 2010) in the following interview, all conducted in English:

Question one: It is my understanding that the integration of students with disabilities into the public schools classes in Mexico was your job from 1995-1997; is that correct?

Reply: Yes. I was the Director of the National Project of Educational Integration, from 1995 to 2001. It was not exactly the integration of students with disabilities but integration of students with special needs (with or without disabilities)."

Question two: Did you consider the program a success? Why or why not?

Reply: It was really successful. It began in three Mexican states, working with 48 public elementary schools. It ended with 24 states, thousands of public (and some private) schools from Pre-K to middle education. It integrated thousands of students with special needs. It was so successful that it was transformed into the current National Program for the Strengthening of Special education and Educational Integration (PNFEEIE, in Spanish).

Question three: Todd Fletcher stated: "Entre el dicho y el hecho hay mucho trecho". Does this occur because of a) an inability to coordinate programs, b) a lack of money, c) political infighting, d) shortage of technology or experts, or e) something else?

Reply: In education, I would choose B and E. The Mexican Government states that it makes huge investments to education and almost nobody sees that money. The Government usually announces some impressive programs ("escuela segura"

o “escuelas de calidad”, even the PNFEEIE –safe schools and schools with quality, for example), and usually the programs do not have enough money to operate efficiently.

Reply: The “something else” means that Mexican education has no academic leaders, but Union, political leaders whose interest is money and political power, not the (children’s) education.

Question three (b) Are you saying that whereas the USA has public President Obama demanding more funding for education and individuals in the private sector such as Bill and Melinda Gates giving endless amounts of money for education, that Mexico lacks both public and private patrons focusing on education?

Reply: Supposedly, Mexico spends a lot of money in education. And, it is true, the Mexican system of education is huge (more than a million teachers, 23 million students in basic education), but it is also true that a lot of people take a slice of the cake: the union, the governors, and the administrators. For example, there are thousands teachers working for the Union instead of teaching. So, my impression is that we need more money and, more importantly, we have to end the corruption in order to have the money in the schools.

Question four: Since childhood my conversations about Mexico always end up blaming corruption for causing a lack of efficiency. From where I sit it seems that the USA is equally corrupt especially in education. What is the difference in Mexico?

Reply: Maybe that you should add to corruption impunity, impunity on many levels. If you have a political position in Education, it is almost impossible that something bad will happen to you if you pick some public money into your wallet. If you are a union teacher, the same (is true). Take into consideration that only one percent of criminal behavior is punished with jail in Mexico. And, of course, criminals are also poor people.

Question five: If you were the President of Mexico, what would you do to assure equal educational opportunities for (1) children with disabilities, (2) rural children, and (3) those so poor that attending school is an economic hardship to their families?

Reply: I would fight corruption and impunity to start with. I would invest more money in education, in order to guarantee that children at risk would really benefit from an education with quality. I would put the Union leaders in its place, defending the rights of the teacher, not directing education. I would offer education with quality to adults.

Question six: My research found nutritional problems the biggest reason that rural Mexican children do not excel academically. Do you agree that environmental shortages

(including socioeconomic status) and not genetic issues should be addressed in the schools to increase academic success within the public schools?

Reply: Of course. I completely agree. I would like to add that rural Mexican children are provided with a poor education. Not well prepared teachers, poor infrastructure in the buildings, scarce materials, and no access to technology, for example.

Question seven: In my private school on the Mexico/Arizona border that was funded with public money, I served breakfast, mid-morning snack, lunch, and mid-afternoon snack. All meals were carefully developed for outstanding nutritional value, a full day's nutritional value for a growing child. Do you think that the rural Mexican children need a nutritional program that is provided within the public schools to provide breakfast and mid-morning snack?

Reply: Yes, the rural (and many urban) Mexican children need a nutritional program that is provided within the public schools to provide breakfast and mid-morning snack. The problem is that schools do not have resources or the permission to carry a program like this; it has to be organized by the federal or local governments. On the other side, other agencies try to do what you propose. They give some foods for the children, but the kids have to share them with the rest of the family. Or they give some breakfast to children at schools (called "desayuno escolar"), with very good results. However, this effort is not enough as to reach all needed kids. So, your idea is very good!

This interview was helpful in explaining cultural and administrative differences within public education practices between the USA and Mexico. Specifically, question six addresses the lack quality training for teachers; this directly affects children in poor rural areas where background diversity issues of indigenous heritage, poverty, domestic violence, incest, emotional disorders, as well as untreated disabilities are daily classroom challenges the teachers must face. Teachers are not prepared to integrate people with disabilities or diversities into the public school classroom (Forlin et al., in press).

There is a long list of USA laws for special education services that often attract Mexican families who immigrate with the expectation of better educational opportunities for their children (Valencia, 2002). Too often the Mexican immigrant discovers that the USA also puts into law something that is not enforced. The actual application of special education laws in the United States frequently requires extreme advocacy by caregivers, teachers, relatives, and even attorneys for a child to receive services. This occurs due to financial limitations within states and/ or federal financial limitations or considerations (Bellavance and Braley, 2000). Although researchers of Mexican family ties have shown the high level of importance placed on caring and support (Valdés, 1996), in general, Mexicans are very grateful for any special services and would not be publically assertive enough, within the legal boundaries of special education services at a state and federal level, to overcome the hurdles now placed in front of caregivers of children in need of special education services (Delgado-Gaitan, 1993).

Sociocultural influences.

Mexican parents consider caring, support, advice, and respect to be of paramount importance to good parenting and strong family ties (Delgado-Gaitan, 1993; Rogoff,

2003; Santamaría, 2009; Valdés, 1996). Assumptions regarding what the words *caring*, *support*, *advice*, and *respect* mean in terms of *good parenting* may not be culturally appropriate. Children in Mexican families are not brought up to apply the same cultural practices as European Americans practice (Ogbu, 1992b; Rogoff, 2003; Rogoff, et al., 1993). Mexican infants are normally held all day by either children or adults; infants are rarely, if ever, alone; infants sleep with parents and/or other family members; and, under the age of two or three no learning or discipline is applied-only gentle guidance (Rogoff, 2003). Between the ages of three to five, the toddler or child is expected to be proficient enough to care for a sibling, to take produce that they have grown to the market to sell, to be proficient enough to herd domestic animals and to actively participate in adult activities that are “*a significant and valued contribution to the family income*” (Rogoff, 2003; pg. 4); they assume gender, domestic, survival and public roles that they will carry for their lifetime. In rural Mexican subsistence farming communities, the children are integrated day and night into everyday activities that mirror how they will spend their days as an adult in that same community. Sociocultural (or cultural-historical) influences are understood at a very early age, and the behavior of the children will match that understanding (Rogoff, 2003).

What is expected of a child in a Mexican household and what is expected within the Western Education Model (WEM) may be very different. In contrast to most family instruction of children in Mexico occurring in outdoor spaces, children who reside in the western USA have the WEM; it mirrors their lifestyles. Western area children have diminishing outdoor spaces and parental safety concerns limiting time playing outdoors. The WEM model expects school children to sit in a chair and listen (Boudon, 1974;

Connell, 1980); Mexican school children spend far less time indoors and very little simply listening; most learning is more active: copying text or group activities. What occurs in the classroom seems boring compared to the 'campo' home environment, where curiosity drives a need to examine the "*guided participation*" (Rogoff, 2003) or internship, hands-on style, of learning. Usually this occurs in outdoor environments. This learning style might be an additional factor that aids learning in later life, if that habit of learning outdoors, in that hands-on style has been established in early life inside the 'campo'. Rural living was found to have specific generalities that were unlike urban living. The following figure, which was developed from this and previous literature reviews and my experiences as a teacher and a special education professional, is an example of what might be expected behavior from a child enrolled in a WEM program and who is also having basic human and social needs satisfied (Kruglanski and Higgins, 2007; Streeten, Burki, Haq, Hicks, and Stewart, 1981).

Figure 2.0 Expected Behavior of Children with Basic Human Needs Being Met

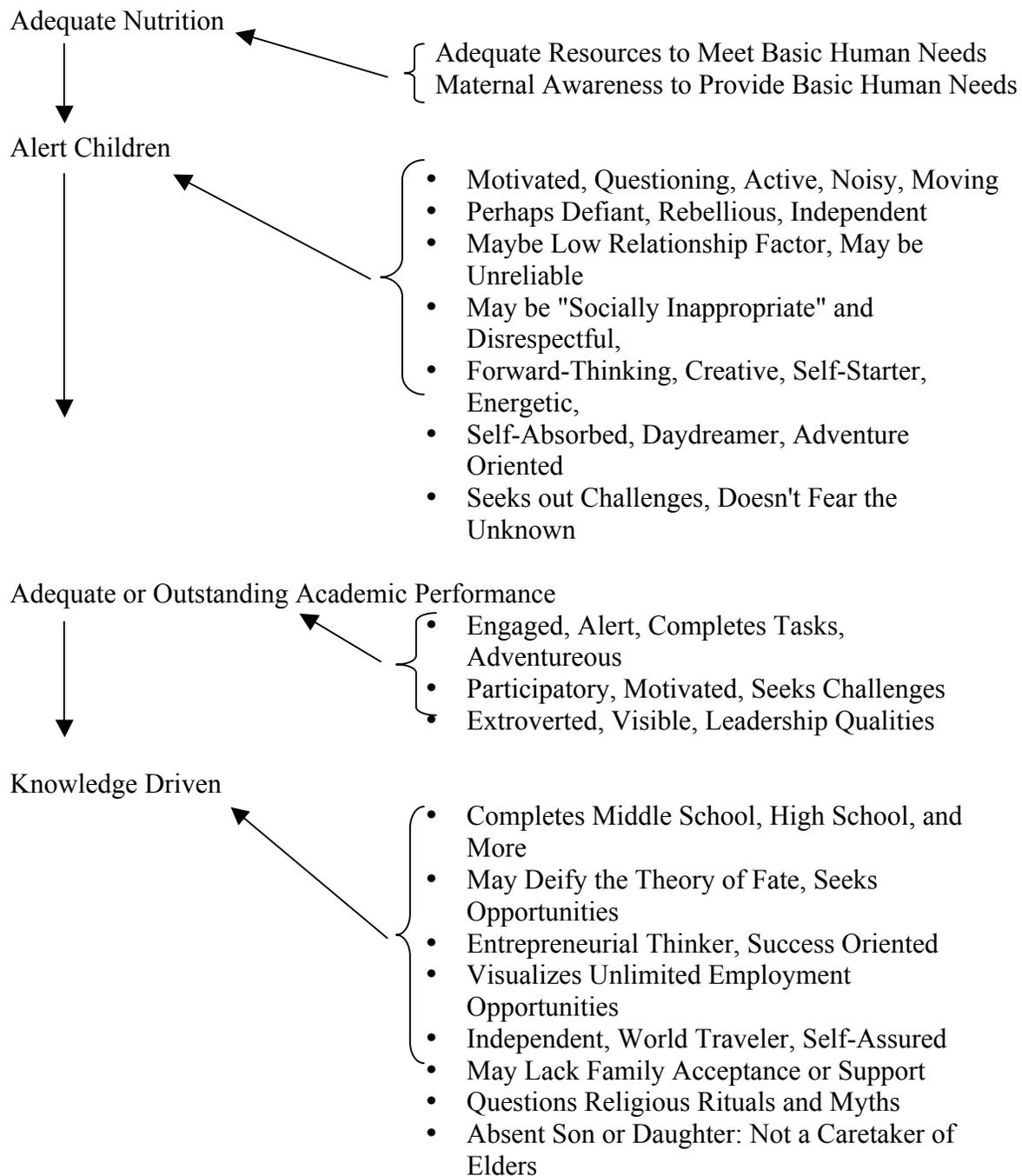


Figure 2.0, Expected Behavior of Children with Basic Human Needs Being Met, is a visual example of the characteristics of a child having their basic needs met. Parents in Mexican 'campos' lack so many of the items listed here, beginning with adequate nutrition. The feeling of hopelessness sets in when there is so much poverty; that can drain youthful enthusiasm. The fact that the cultural expects the child to spend their entire life inside the 'campo' can also make it hard for a child to expand their ideas and goals. Finally, the expectations of parents have a very big effect on the attitudes of the children in the family.

Parents' educational expectations.

Mexican caregivers have definitive ideas about the education of their children. They expect teachers to be approachable, to know a great deal about their child and to treat their child like their own - even to the extent of calling them "*mi hijos*" (my sons/children) in the classroom. Visible expressions of affection (gentle touching, sincere smiles or nods) between children and their teachers are an expected part of the Mexican culture. Children mimic what they see in adults and among themselves, they expect this social treatment (Moll, et al., 1992; Ogbu, 1992b; Rogoff, 2003; Valdés, 1996). Values regarding school success by European Americans equate high grades, rigid curriculum and competition with school success. Rural Mexicans are far more likely to value cooperative learning, group problem solving, observational or hands-on activities and respect for elders and peers alike (Cattley, 1980; Jimenez, et al., 1999; Jimenez, 2000, 2003; Ogbu, 1992b; Portes, 1999; Rogoff, 2003; Tapia, 1998). Mexican parents typically regard appropriate social development to be the most important outcome from an educational environment (Greenwald and Banji, 1995; Grumbach, et al., 1999;

Horvat and Lewis, 2003; Jimenez, et al., 1999; Jimenez, 2000, 2003; Kagitcibasi, 1990, 1996; Kozulin, 1998; Lara-Alecio, Irby, and Ebener, 1997).

To illustrate this further, in an Arizona border town in the spring of 2004 a non-Mexican principal at the middle school where I was working decided that "*all that hugging and kissing every morning in front of the school building was simply not appropriate on school grounds*" and she insisted the teachers, who rotated daily as grounds monitors before and after school, "*stop that behavior by the students immediately*" (Mackenzie, personal journal, June 12, 2005). The students and teachers alike ignored her command; her administrative contract was not renewed because she violated appropriate social development. This middle school principal lacked cultural awareness. She apparently never noticed that every adult in town greeted their neighbors by reaching out their hand, lightly kissing the cheek, and giving a hug, slight or enormous, depending on how well the person was known and/or how long a time had lapsed since the last meeting. This is standard practice by all men, women, and children. Inside Mexico, this greeting is a cultural expression of the 'relationship factor' that span all ages. The hug expresses caring, emotional and physical support, willingness to give or take advice, and respect among all ages (Delgado-Gaitan, 1993; Monzó and Rueda, 2001; Rogoff, 2003; Valdés, 1996). A Mexican hug and kiss on the cheek is certainly not a sexual expression as that school principal had inferred. For over twenty-five years, Noddings (1984, 1992 and 2003) has reminded us that the educational process should include caring, love, and happiness. Ruth Kessler (2000) stresses that our soul should be in the classroom in the same manner that Richard Louv (2005) elaborates on the value of bringing our students outside to learn, heal, and express love of our world and/or bring

nature inside for the same reasons. Santamaria (2009) states that Mexican students in one study "*stayed in school because of strong ties to caring and understanding teachers*" and suggested, "*due to the high dropout rates in Mexican secondary schools, affectivity must not be overlooked as a means to retain students*" (pg. 114). Santamaria (2009) further states "*I argue that teachers and school staff who maintain 'closer emotional bonds' with Mexican origin parents will most likely experience fruitful and fulfilling relationships that are mutually valuable*" (pg. 113). Each of these educators quoted above expresses emotion as a part of education with the same ease that Mexicans express emotion as a part of all of life (Ogbu, 1990, 1992a, 1992b; Portes, 1999; Rogoff, 2003).

There is a general misconception that Mexicans do not value education (Valdés, 1996; Valencia, 2002; Valenzuela, 1999); this appears to be untrue. As Santamaria (2009) states "*According to Auerbach, one way that Latino parents demonstrated their "apoyo" (support) for their children's education was by encouraging their children to work hard in school and to study at home*" (p. 113). In the melting-pot culture found within the USA, and in some other cultures, work was nearly always considered as the first concern of mature adults. Education was typically second and in place primarily to support a career. In this model, the family takes third place. When a deficit model is applied to other cultures, that action perpetuates the myths that other cultures do not give considerable significance to work or education unless their value system was identical. However, if value systems are identical to the analogy that a mother can love (a) all seven of her children, (b) her husband, (c) her own mother, and (d) her three sisters equally deeply, then it should be possible to understand the *relationship factor* which is dominant in Mexico. In Mexico and most other counties with a dominant Latino culture, family is

always first (Valdés, 1996; Valencia, 2002; Valenzuela, 1999).

Figure 2.0 (page 48), in representing the expected behavior of children with basic needs being met, illustrates the mismatch between home and school. At home in the 'campo' a child often lacks adequate nutrition; that lack of basic nutrition may make him/her lethargic and noncompetitive. The visualization (Figure 2.0) is practically the opposite of the strong interdependence between family and home as aspect of the *relationship factor* that was a survival technique often used in the poorest of Mexican communities. Figure 2.0 represents independence characteristics while the 'campo' home is an example of interdependence characteristics. A 'campo' community was a place where bartering, not cash, was the medium of exchange for services or other assistances. Additionally, without adequate social services or retirement programs, interdependent multi-generational support was mandatory to sustain the economics of the community. Children are unpaid and yet valuable family workers whose energy and skill contributes to the welfare of the entire family. Traditionally "*high fertility is implicated as the economic value of the child is cumulative with child numbers*" (Kagitcibasi, 1982 1990, 1996, pg. 1). There is a total interdependence in these communities, discouraging independence or self-interest, and encouraging obedience. Obedience serves the family survival functions while the children are growing because they care for domestic animals and attend to domestic chores. Obedience serves the elderly parents in old age because the adult children care for their elderly parents (Kagitcibasi, 2002).

Multigenerational learning: the apprenticeship of the indigenous child.

Numerous aspects of the 'campesino' lifestyle revolve around teaching and learning outdoors. The 'campesino' takes this way of living for granted, however, in modern society the value of outdoor experiences and expertise has been internationally recognized. It is important to acknowledge that what might be called *community literacy* or *funds of knowledge* (Moll et. al, 1992) from other terminology were simply a similar classification. Semantics might be all that distinguishes intergenerational learning in a rural setting (what happens inside the 'campo') with the following phrases:

- 1) outdoor education (Martin, 2004) and environmental science (Pratt and Carrier, 2007),
- 2) the outdoor classroom (Crisp, 1975) from field experiences (Watson, 2007),
- 3) adventure education (Loughmiller, 2007) from nature healing (Frumkin, 2001; Kaplan, 1995; Lawson, 2004),
- 4) outdoor behavioral healthcare (Russell, 2002) from wilderness programs (Haluza-Delay and Dymont, 2003),
- 5) naturalist intelligence (Gardner, 2000) from ecopsychology (Dunning, 2002)
- 6) natural world exploring (Williams, 2008) from deep ecology (Adams, 2005).

Without regard for any specific terminology, this research is focused on indoor and outdoor inter-generational dependence (family interdependence) (Rogoff, et al.,

1993). The resulting learning experiences are the norm within a population having similar cultural heritages; those living within the same rural geographic area. Time spent outdoors has been reduced a great deal in only one generation (Dasha and Ziviani, 2007; Karsten, 2005; Tandy, 1999) and the encompassing cost of depriving them of a relationship with nature is significant (Hoover, 2008). These changes have often resulted in obesity (Koplan, Liverman, Kraak, and Wisham, 2007; Puhl and Latner, 2007) and limited cognitive functioning that exposure to nature enhances (Wells, 2000). When a person from a non-outdoor focused society enters this arena, that contrast must be taken into account as a significant cultural difference; the learning taking place was likely mainly non-academic and yet highly practical. In the manner of previous researchers, this study focused on locating and defining those cultural differences and then determining if there was significant worth in identifying and reporting them (Kelly et al., 2006). The obvious worth in these comparisons is the enhancement of self-esteem for ‘campesinos’ due to the acknowledgement of the funds of knowledge that exists within the ‘campo.’

In discussing ‘campesino’ self-esteem enhancement, an examination of Feuerstein's Mediated Learning Experience (MLE) theory is appropriate. MLE is the belief in human modifiability. This might include the ability to move into a higher social class or to excel financially after gaining an education. Human modifiability includes the regulation and control of behavior, feelings of competency, sharing behavior, individuation-psychological differentiation, goal seeking-setting-achieving-monitoring, challenge, and the search for novelty and complexity. Additionally, the awareness of the potential for change, the search for optimistic alternatives, and the feeling of belonging

(MLE, n.d) must be included. All of which may be significantly reduced if the child is deprived of the mediated learning experience associated with his or her native culture (Kozulin, 1995) is one explanation for why some children do not excel when they immigrate into another culture. Rural Mexican children's conscientious behavior, in both family life and academic settings, may be influenced by mediated learning experiences associated with his or her native culture where most learning is related to what Rogoff (1993) referred to as "*guided participation*." Like Vygotsky's scaffolding theory, "guided participation" is how children learn in the 'campo.' Rarely is the child directed, typically the child watches another older person and imitates what is seen until mastery of the activity is achieved. That form of learning occurs when the child participates in mimicking the activity by being visually guided by a mentor (who may or many not be aware of the child's activities). The learning takes place within a gregarious family and an extended family community, more frequently outdoors. Other researchers agree that learning and culture are deeply interrelated within a depth and breath we have just begun to understand (Kagitcibasi, 2002; Rogoff, et al., 1993; Romero-Contreras, 2006).

Empirical Research

This second section's focus is on examining three areas of the literature that address: (1) special education services in Mexico (an introduction to information about special education needs services availability nationally and especially in 'campos') and in the USA, (2) identification of developmental delays or special needs models utilized in two different countries (Mexico and the USA) and (3) cultural influences on the evaluation of 'campesino' infants, children or youths. An unbiased researcher must consider what research has been done and how those findings might aid in future efforts;

that is the process followed within this section.

Different approaches - addressing special needs: Mexico/USA.

Mexico lacks the legal provisions for special services that are provided in the United States (Fletcher, et al., 2003). Mexican parents who are residing in the United States illegally (without immigration papers) typically have their special needs children enrolled in public school along with their other children. Those children with special needs frequently receive educational services inside the schools. With diligence, parents may win the right within courtrooms to stay in the United States, where the child would continue to be provided with special services, even if they are not legally in the country. The reason for this judicial authorization is because such services are simply not available to the general public in Mexico and to return the child would result in him/her undergoing a grave hardship (Fletcher, 1999). A variety of concerned citizens and intellectuals, including university students of special education, school psychology, rehabilitation, hearing or vision impairment, student teachers, teachers of language and culture, and numerous other professionals find it hard to imagine that such a large gap exists in the amount of emotional, physical, and financial responsibility assumed by the Mexican government for those in need and the services required. Parents in the United States are also surprised when they read the laws governing special education in their own country and find that they are not being enforced. American parents are further surprised to discover that enforcing the USA laws is another extensive step that they must take to actually get the services the laws promise; usually with the aid of an attorney. Parents in both countries often walk away unaided (Bellavance and Braley, 2000) due to both limited resources and gray areas in the laws.

There is very little assistance assured by law for parents of children with special needs living in Mexico (Fletcher, et al., 2003; Fletcher and Martinez de Ramos, 2005). Every year the emphasis on understanding the culture within the University of Arizona summer Spanish immersion program, Verano en Mexico, begins in March with handouts that must be read before the airline flight into Mexico the following May (Portes, 1999; Rogoff, 2003; Todd, 2005). The themes of the handout are a means to better comprehend the culture into which the students are placing themselves (Ogbu, 1992b; Rogoff, 2003; Saracho, 2007). Until cultural differences are understood within an extended immersion program or the culture is studied over time there is little opportunity to educate with any real comprehension of what is actually occurring within the culture (Fletcher and Ramos, 1999). However, it is imperative that the actual physical differences in services and the means to gain them be understood. This is a necessary practical means to move forward because a teacher, parent or other interested party requires a literal comparison of what differences students or concerned parties are actually dealing within their student's educational program. A teacher, parent or other interested person needs to know what services the student requires, what are services are available and what services the student is actually receiving (Fletcher, et al., 2003; Fletcher and Martinez de Ramos, 2005; Rogoff, 2003; Romero-Contreras, 2006).

When those from the United States hear that Mexico is a democratic society, they are under the impression that what occurs, at least at the level of public education management will be similar to that in the U.S. However, the differences, in many cases, are dramatic. In addition to actual costs of daily transportation, meals, uniforms, and school supplies, parents must relinquish their free child labor on the family farm, within

the family industry or on public streets where children often beg for money. When all these factors are considered, the cost of attending school is a significant loss of family resources (Rogoff, 2003). In a large ‘campesino’ family, the choices require further examination of who needs the earning power that an education might offer; typically, the males enter the classroom and females are kept at home (Post, 2001). Since 1993 schooling has been mandatory for all students up to eighth grade (Fletcher and Martinez de Ramos, 2005; Forlin et al., in press), therefore *a young man who completes eighth grade is considered an educated person*, but in practice this is questionable (Mackenzie, personal journal, May 29, 2008). Those cultural attitudes have not changed alongside the frequently changing laws regarding education. Mexico offers nine years of mandatory schooling, but only 41% of the students complete those nine years (Forlin et al., in press). As might be expected, the majority of those non-completers are living in rural indigenous communities with low socioeconomic status (Fletcher and Martinez de Ramos, 2005; Forlin et al., in press). In rural Mexico today, educational availability and accessibility are quite different concepts (Rogoff, 2003). The public schools provide an education without tuition, but there are still many costs (transportation, lunches, uniforms, school supplies) and fewer services (especially in rural areas) than some parents require for their children; particularly those with special educational needs. *“Unfortunately, as one might expect, special educational services availability and special educational services accessibility are also quite different concepts”* (Mackenzie, personal journal, June 21, 2008).

The USA developmental delay model.

Traditionally in the USA, each aspect of a child has an individual assessment and a form is filled out to meet certain criteria under that model. Like a car being taken apart to locate a problem, the observer evaluates areas of the child separately: hearing, vision, gross motor skills, fine motor skills, etc., and files a report on each part of the child that was evaluated. A historical overview of the model using individual assessments for identification of developmental delays may not as useful or even appropriate for this population as a more holistic approach might be (Kagitcibasi, 1996). Children in the United States are evaluated for special needs in order to group their symptoms into a definitive category that guides medical or mental health professionals, parents, teachers, or special educators toward educational, medical, alternative, and/or psychological interventions that have historically resulted in positive changes in children with similar symptoms. Evaluations are needed (1) to meet educational special needs in a uniform manner country-wide, (2) to provide special services within school districts, (3) to find an appropriate label which appears in school legislation for funding categories, (4) to budget for post secondary education when planning for educational budgets, and (5) to provide a means for parents to advocate for special educational services. Such an evaluation within the United States is usually a joint effort of parents, teachers, special educators, psychologists, ophthalmologists, audiologists, psychiatrists, and other trained professionals who will offer insight and suggestions as to the options available for meeting a person's special needs within this framework of legislated options and privately funded alternatives (Bellavance and Braley, 2000). Mexico not only does not have the same categories, or the same requirements. Most importantly, sociocultural influences

are not taken into consideration using a non-holistic view for assessment of developmental delays or special needs (Kagitcibasi, 1996).

A partnership in the United States between individual states and the federal government for the welfare of children's overall health, including the education of those with disabilities and special needs, was established in 1912 (NCES, 2001) and called the Children's Bureau. Another fifty-four years would pass before the concern for the health of children, which had been defined as overcoming poverty and hunger, would include the education of children with special needs (academic support). It took time for children's advocates to convince individual states and the federal government that all children need the opportunity to be self-reliant; without an education that would not be possible. The Bureau for Education of the Handicapped under Title VI of the Elementary and Secondary Schools Act (ESEA) was established in 1966. That legislation became its own law in 1970 by way of the Education of the Handicapped Act, P.L. 91-230. In other words, special education in the United States was legislated for all people with special needs fifty-eight years after mothers and children's health concerns by overcoming poverty and hunger were legislatively addressed (NCES, 2001). This information points out that history has shown that advocates for children with disabilities change legislation, not those who are disabled. To summarize this discussion, it is important to keep in mind that when discussing special needs education services in Mexico and what changes might help those with disabilities, a look at what actually has occurred in the United States is a historical reference (Bellavance and Braley, 2000).

When the United Nations General Assembly adopted resolution 31/123 on December 16, 1976 worldwide interest in special needs was sparked. That resolution

proclaimed 1981 International Year of Disabled Persons and assured "the right of disabled persons to participate fully in the social life and development of their societies and to enjoy living conditions equal to those of their fellow citizens"(UN, 1982); this resolution included education. The education aspect was further explained:

Member States should adopt policies that recognize the rights of disabled persons to equal educational opportunities with others. The education of disabled persons should as far as possible take place in the general school system. Responsibility for their education should be placed upon the educational authorities and laws regarding compulsory education should include children with all ranges of disabilities, including the most severely disabled (U.N., 1982).

Though Mexico was a Member State at the time this inclusion of children with disabilities resolution was adopted (U.N., 1982), thirty-three years later, generations of Mexican children are still waiting for special education services. Collectively, seventy-three years have passed since Mexico joined the United Nations, a group dedicated to overcoming poverty and hunger. Mexico had joined the United Nations (UN), June 5, 1942 (UN, n.d.) long before it addressed special education legislatively. Health, hunger and poverty, along with special needs education services remain major health concerns in Mexico today (Forlin et al., in press; Poblano, et al., 2002; Poblano, et al., 2006).

Inclusion of special needs children in regular classes was found, in a preliminary study that is still in progress, to be desired by 85% of the teachers in Mexico (ICEC, 2008, as cited in Forlin et al., in press pg. 6 of draft copy), however, teachers lack the training to manage special needs children appropriately within mainstream classes (Forlin et al., in press). Recent research found one third of the teachers had no experience-teaching

children with disabilities, another third only had some experience, and 44% had no training at all. Additionally, the teachers union in Mexico strongly opposes inclusion of students with special needs in mainstream classrooms (Forlin et al., in press). Solutions in how to assist children with disabilities are evasive for parents, teachers, and administrators in Mexico. Though governmental services in Mexico emphasize parental and extended family education as a means of assisting children and adults with special needs and their care (Bellavance and Braley, 2000), no funding is available for family members who must leave the workforce to care for people with disabilities. Mexico even lacks the resources to provide public educational services to all normally developing children (Mackenzie, personal journal, September 3, 2008). Solutions for the Mexican living inside a 'campo' are unlikely to be found soon.

Mexico requires a different developmental delay model.

Mexico is generally referred to as a "developing country" although neither the World Health Organization nor the United Nations has adopted a uniform definition. The one public definition generally accepted is *"a non-industrialized poor country that is seeking to develop its resources by industrialization,"* (Collins, 2005). In a developing country, there are limited administrative resources for health, hunger, and poverty and special education programs, or even regular education. Mexico has limited resources allocated to all educational programs; less funding is available for students with developmental delays or other special needs.

Prudent investigating requires scholars to examine general education in Mexico historically to better understand financial shortages. From 1950 to 2000 the total enrollments in the education system in Mexico went from 3.25 million students in 1950

to 28.22 million students in 2000 (Rolwing, 2006). In the decade of the 1990's there was a 46 percent growth both in preparatory schooling and level three schooling that comes post middle school education (Rolwing, 2006). Until 1993, few students residing in 'campos' completed schooling past sixth grade because options for rural parents were limited and private schools were costly and distant. That changed in 1992 (Rolwing, 2006) when states took over the main responsibility for educational authority and again in 1993 when all students, disabled or not, were by law promised a free education. This, however, has not ensured that all students, disabled or not, are getting the proper education the government has promised. The reader may recall earlier comments about Mexican laws passed and the services actually provided (Fletcher and Martinez de Ramos, 2005). In all cases rural children continue to receive the fewest resources (Forlin et al., in press; Post, 2001), therefore it is more likely that rural Central Mexican 'campesino' children would have developmental delays or special needs (Poblano, et al., 2002; Poblano, et al., 2006) that have not been identified.

Identify developmental delays in 'campos' then intervene.

Researchers reported that the earlier interventions are planned and initiated, the faster and more positive the results (Reynolds, et al., 2001). The need for early identification of developmental delays is necessary if early intervention is to take place. Due to the lack of special education services, inside the 'campo,' intervention requires the development of educational tools that parents in Central Mexico can use in their own homes (Rogoff, 2003). The focus of my study, this study, was to examine participants in a program for the stimulation of infants and children (under three years of age prior to beginning school), because once identified interventions can take place. There are tools

that have been created to fulfill the needs of this age group. Some of those tools were recently described in a 2007 publication originating in the USA:

Designed to provide parents with over-the-counter sensory tools to use to help their toddlers and preschoolers become more comfortable with and participate in daily activities. These tools focus on censoring processing challenges, working with sluggish tots, cautious tots, touchy tots, children with sensitive ears, fumbling tots, tippy toe tots, busy bee tots, and spirited tots. Provides help in dealing with acquiring social skills, change, eating habits, bath time, and hygiene problems, dressing issues, and sleeping issues (Henry, Kane-Wineland, and Swindeman, 2007).

The tools described above can be adapted for parents to use inside the ‘campo’ and fill in the need for intervention when developmental delays have been identified. These tools encompass the vast range of educational options for preschoolers to expand their minds and increase their understanding of the world and their stored knowledge. Public school teacher informants stated that for decades inside the ‘campo’ the belief in Mexico was that children did not learn school-related knowledge until after the age of five years (Mackenzie, personal journal, February 21, 2009). Although the Mexican government has initiated early stimulation programs to overcome that previous myth, the ‘campo’ residents are less likely to embrace new approaches to raising a child and more likely to retain older beliefs. Children under the age of five typically learn in their homes by observation, the same way they learn after the age of five.

There are tested and proven ways to train children with disabilities and normally developing children too. Stanley Greenspan, (1997) a nationally published child

psychologist, and Serena Weider, (1997) developed the Developmental Individual Difference Relationship-based model (DIR) to assist children in overcoming developmental delays through play. DIR incorporates the use of a child's natural strengths, to improve the abilities of the participating children, as well as strengthening areas of weakness. Both accomplished tasks and challenges are identified and incorporated into play activities. The goal is to expand participant children's abilities in a seemingly harmless play space with no threats or intimidation. Project-Occupational Therapy (PLAY) may be incorporated with DIR to enhance the abilities of a child showing the symptoms of sensory integration or sensory processing disorders. This tool has been used successfully with the following broad range of exceptionalities:

- Developmental delay, neurological disorders, and congenital disorders
- Fetal alcohol syndrome and alcohol-related neurological deficits
- Pervasive developmental disorder (PDD) and attention deficit hyperactive disorder (ADHD)
- Autism and speech language delay
- Physical limitations like poor hand skills, poor handwriting, and poor balance
- For those who are hearing impaired or vision impaired
- To assist with orthopedic injuries or traumatic brain injury

The goal of this method was to gain the ability to interact in socially acceptable ways to people and things around them. That may be a positive approach to overcoming cultural barriers. Researchers have found this family-oriented interdependent socially-focused approach effective in Latino homes (Santamaría, 2009; Todd, 2005). This or a similar tool may be appropriate to enhance “*early interventions which* (through the employment

of this tool must) *consider ethnic differences in developmental outcomes of infants and children. Within a population of indigenous Mexican males who can be suspicious of any education of their wives* (Mackenzie, personal journal, June 14, 2008). This model would more likely be seen as “play” by male spouses and therefore, according to several informants inside the ‘campos,’ less threatening for a Mexican male who might be suspicious of any education of their wives.

Developmental delays and cultural influences in ‘campos.’

Family environment certainly included cultural practices observed in the ‘campesino’ communities. As an early childhood researcher, I am especially interested in one study on early life health and development among children from ethnic minorities, including nutritional factors and single parenting (McMunn, et al., 2008). At this time, there are a limited amount of studies related to developmental delays in infants and differences in the ability to learn in early years due to ethnic differences or cultural practices. Researchers have found biological, psychosocial, economic, and cultural influence or ethnic differences in infant and childhood health and developmental outcomes due to differences in childrearing and numerous other factors (Kelly, et al., 2009). Researchers do not always agree on the factors that increase developmental delays. A few researchers determined that when evaluating statistical data development delays are not a significant when socioeconomic factors are taken into account (McMunn, et al., 2008; Rogoff, 2003). The conclusion of several other researchers is that developmental delays are the direct result of deprivation (Poblano, et al., 2002; Poblano, et al., 2006). The second is most often reported outcome from research data. In order to reduce probable developmental delay and to prevent emotional and cognitive disabilities

that might last a lifetime, one must overcome the low socioeconomic factors causing the deprivation. Researchers have determined that developmental delay was not the result of ethnic origins (Kelly, et al., 2006) but of the sociocultural factors and the resulting practice that deprivation was acceptable (Rogoff, 2003). Due to an overall cultural acceptance of unhealthy behavior and conditions, other environmental factors arise that are frequently involved in poor health outcomes (Delpisheh, et al., 2006; Rogoff, 2003).

Efforts to identify and overcome developmental delays may help to close the gap (Fletcher, 2007) that is created when a child falls behind their peers academically. This is especially important for 'campesino' children who face the greatest academic challenges in Mexico and even greater challenges as immigrants attending educational institutions in the USA. In both Mexico and the USA, researchers reported that Mexican families expected that social development (the most important value within the Mexican culture) may still be successfully accomplished within the school system even if academic failure occurs (Artiles and Trent, 1994; Delgado-Gaitan, 1990; Fine and Weis, 2003; Fletcher, 2007; Fletcher and Artiles, 2005; Fletcher, et al., 1999), however equal educational opportunity advocates are concerned with more than just social development. It is those advocates, researchers, administrators, teachers, parents, and others who embrace programs designed to overcome developmental delays and other inequities common to the 'campesino' communities (Arenas, 2008; Goldstein and Mather, 1998; Goleman, 2007; González, et al., 2005; Middlemiss and McGuigan, 2005; Moll, 1992b; Todd, 2005). These individuals greatly need our assistance and praise.

CHAPTER 3: METHODOLOGY-MIXED METHODS

"Approaching them respectfully and carefully they are more than willing to tell us about their histories and experiences. To enter the household as learners in the ethnographic sense in order to learn from the people we are interacting with."

Luis Moll, 2009.



Figure 3.0 Two-Person Research Team on Location

As a professional student, I have repeatedly analyzed the blurry line between my interpretation of what was observed and developing an accurate scholarly record of these observations. By applying a *self-reflective practice* to my research and then *self-reporting* it in an academic format, I would be able to defend my findings among my peers, mentors and other professionals (McNiff and Whitehead, 2002). Professionals might be accustomed to quantitative research, a procedure where the results are "*qualified by the data*" in the form of numbers; unlike qualitative data which does not rely on such

methods (Strauss and Corbin, 1998). Although I have witnessed unfairness toward Spanish-speaking Mexicans ever since my childhood in New Mexico, when I put pen to paper to report the knowingly biased information, it often read like either the patriarchal logic that caused and perpetuated such thinking from the onset or a deficit model comparison. Realizing that "it is not possible to be completely free of bias," (Strauss and Corbin, 1998) a responsible researcher is obligated to report what is observed and "discern the range of potential meanings" (Strauss and Corbin, 1998). The work of Whitehead (Strauss and Corbin, 1998) assured me that research on myself in the form of an *action plan* would allow me to report accurately, and within academic protocol, what I was observing in the lives of those around me and in my own life (McNiff, Lomax, and Whitehead, 1996; Mpofu, 1998). I felt like a screaming feminist unheard beneath the glass ceiling; how could I ever report my findings fairly and yet in a scholarly manner if I was only reporting what I observed in others? I continued to look for others who shared my interpretation of what I observed and who were able to write in an academic fashion. Thankfully, Strauss and Corbin (1998) reported a quote by B. Fisher, a male and a Marine, that informed me that not only was I not alone in this struggle, but that this struggle was not solely feminist: "*I saw that being an intellectual didn't have to be removed from people's lives, that it could be connected directly to where people were in the world and what they thought about it*" (quoted in Marines, 1991, p. 8).

Background

"*As an analyst, we want to build a creative, grounded, and dense theory...generate the free flow of ideas*" (Strauss and Corbin, 1998, p. 99) to better explain the research results within a reliable study. This complex web of reasoning is what drove the decision

to develop a *systematic action plan* that applied several theories using triangulation to make certain that the findings in this paper are true to experience while also being thoroughly incorporated within an academic framework. Strauss and Corbin remind us that "*the purpose of our analysis is to build theory.... We want to move from the specific to the more general*" (1998, p. 88). In examining any situation, (1) the process, (2) the action/interaction, and (3) the structure or conditions must be understood. Understanding the process answers the "How?" within the situation and understanding the structure answers the "Why?" Therefore, the importance of the background information, what was offered by numerous informants before this research project began, must be clearly comprehended.

For several years before the first observation or interview began, casual informants explained the "Why?" of the culture I was going to be researching. What I was seeking was answers to "Why" activities that I saw taking place. One example I asked was "Why are infants passed from one person to another and rarely put down on a bed, couch, or other quiet space alone?" There was no possibility of my asking interviewed mothers "How?" if I had not been privy to so much information beforehand. I certainly would not have been able to develop any rational theories from the data within this study without the valuable time people allotted to me when answering my nearly endless questions before the study even began. My pre-study learning process related to the culture was invaluable in creating a relationship of trust. I had to trust that what I was being told was accurate in order to be able to both further expand my understanding of the culture and grasp more insight into what specific behaviors implied within the 'campo.' Another challenge was to be able to compare 'campo' behaviors to what occurred or did not occur

in a higher social class setting. "*Process and structure are inextricably linked, and unless one understands the nature of their relationship (both to each other and to the phenomenon in question), it is difficult to grasp what is going on*"(Strauss and Corbin, 1998, p. 127).

I drew from several theories in this study (a) Feminist Theory in the shadow of Nell Noddings, (b) Participatory Theory due to my total immersion into a foreign culture, (c) Emancipatory Theory with the goal of exposing village people to global knowledge, (d) Advocacy Theory because I had been forced to abuse Mexican children by placing unrealistic expectations on immigrant students with both ESL and special needs challenges; many of them spoke not a word of English. This occurred within public school special education classes in the USA (I wanted to somehow correct the unforgivable). Last, but far from forgotten, the (e) Critical Race Theory (typically focusing on a specific race) was incorporated, which means little more than culture specific since Mexico is a melting pot. These theories were consulted as a means to right some of the wrongs I had witnessed firsthand. The following further explains the theories:

(1) The Feminist Theory (Skatala, 1999) is an extension *the feminist movement* into most areas of academia, commerce, and life in general. The Feminist Theory explores the concept of caring about other people, incorporating social roles, honoring though listening and analysis, especially of the rights, issues, and concerns surrounding women's issues.

(2) Participatory Theory is a conceptual format that attempts to combine the object and the subject, rather than separate them. This theory of a *participatory*

framework advocates blending the human mind with the outside world (Tarnas, 1999).

(3) The Advocacy Theory (Sabatier and Jenkins-Smith, 1993) suggests that designs be created to promote social change. This theory can be explored both qualitatively and quantitatively as a means entice people to form coalitions and bring about (hopefully) positive social changes. This is a solution change driven theory.

(4) The Critical Race Theory (Collins, 2007) was in the press in the 1990's as a means to advocate for African, Latino, and Asian Americans from a legal standpoint. This theory stands on *a social justice framework*. Collins (2007) defines this theory as a group of theories: "*a broad constellation of historical and contemporary theories that have actively engaged the prevailing racial theories of particular times and/or social contexts.*" pg. 1).

The following comments were recorded very early within the study and further explain how this emic approach was a method of total immersion used to collect data as a means to better understand the culture.

"Now that we have brought our Western ways here we have had to study a great deal to learn this culture and the language too. We have been informed that it is very common for gringos to have much stolen from them, but because we are helpful by tutoring, treat others with open respect and live as they live, we are protected and respected here. I feel safer here than I felt in Arizona. I sleep like a baby every night and find my days simply filled with the joy of being alive"

(Mackenzie, personal journal, January 29, 2009).

This blend of theories offered alternative views that were kept close to the surface of my thoughts during the analysis of my observations and interviews. This blend allowed me to more accurately conduct my research because I was not confined to one set of theoretical parameters. I was able to remain like a sponge, observing all that was around me, recording it, verifying with others what they thought I had observed, recording those replies and then later still separating the data into categories that the theories offered. The entire process was not unlike an oversized 3-D jigsaw puzzle.

My reader has an elaborate choice of material both within this report and in the appendix as references. This material was compiled because an array of informants contributed to the data by explaining the multitude of cultural influences that were present. Each factor is likely to have contributed to the development of the ‘campesino’ children I observed. This study makes *use* of "*The most logical descriptor for what was going on*" (Strauss and Corbin, 1998, pg. 114). One goal of this study was to present data that increased understanding, reliability, and validity. Following in the footsteps of Spatig (2006) and her team, who encountered dialogue in West Virginia, this study was influenced by a broader range of factors than those that were done before or since that study. Each team member asked the questions and helped develop the answers from the interviews; in the same way that Jolene and I asked questions of each other and of outside informants. Spatig (2006) and her team used a *comparison* of "Whom? When? Why? Where? What? How? How much? With what results?" (Strauss and Corbin, 1998, pgs. 89-90), in their brainstorming process, as did our two-person team. The major difference between this study and Spatig's (2006) four women team was that they were working in their native tongue and in their home country; we were within a foreign country. There

was a wide range of factors and other influences that came into this international project that made it more complex and time consuming than Spatig's local project, as the following section will further explain.

Research challenges: social, cultural, physical, environmental, and international.

This research project was undertaken in a foreign country where I was unable to speak the language, where I resided in an impoverished agricultural area with those who had limited educational opportunities and even fewer economic options (Ogbu, 1992b; Post, 2001; Rogoff, 2003) and where I was culturally and academically isolated. To research and record, I needed to access reliable electrical power. The fact that reliable electrical power was not possible in rural Central Mexico meant that I had to adapt to losing the ability to use technology at any moment. There also was no university library; again, I needed to adapt. My biggest technical challenge was that I needed to access to the Internet for twelve to fourteen hours a day, seven days a week. The Internet cafés in town shut down a great deal for every holiday, lunch, and various other reasons without warning; they were also very noisy. Obtaining reliable Internet was my biggest environmental challenge, but finally after months of problems the signal worked nearly every day for at least part of each day beginning in mid-2009. I became grateful for every uninterrupted hour of Internet time; again, I adapted to what was available within my research site.

International approval from both the United States IRB and the Mexican authorities had to be secured; often, what actions each one required contradicted the

other's timeframe. The logistical frustrations that developed from those international requirements and cultural differences required continuous explanations, adaptations, and adjustments by them and by me. The physical means to reach the villages was hampered by funding, access, and other environmental factors such as: (1) lacking a vehicle appropriate to the landscape, (2) impenetrable fog, (3) excessive rain on dirt roads, (4) monsoon floods washing out roadways or bridges, (5) substandard or absent roadways, (6) non-existent directions to meeting sites, (7) locked clinics or community center facilities, (8) participants lack of access to the class schedule, and (9) unverifiable meeting dates and times due to a lack of telephones or Internet access inside clinics or community centers. None of these factors was considered unusual to the 'campo' residents because completing an errand or some other similar effort is not expected to take place. If a positive outcome occurs when an errand has been attempted, there is surprise. In general, this area of Mexico is operated with an almost unimaginable lack of efficiency on all levels of social and government structures. The economy is so lacking that just about all the infrastructure is just barely functioning. The fact is the 'campesino' lifestyle remains nearly impossible to explain to anyone who cannot comprehend living without efficiency or comforts. Even more hard to imagine is no access to tap water, electrical power, and no serviceable alternatives. The obstacles we faced daily as 'campesino' research participants were culturally unexplainable to those outside the 'campo.'

Summary - outside forces affecting the participants.

During my research there were unique factors that occurred throughout 2009. My two-person team was a part of a series of complications that required additional personal adaptations because these were interferences that could not be ignored because the economic and physical effects were so evident inside and outside the ‘campo.’ The following external events had an impact on my research because health clinics and schools were closed, people feared gathering and talking to other people, distribution of basic supplies (like food and gasoline) were interrupted and the overall economic situation worsened both inside the ‘campo’ and throughout Mexico.

- 1) National *Drug Wars* Accelerated,
- 2) National *Crime* Increased,
- 3) Regional H1N1 *Flu Scare*,
- 4) Global *Tourist Warnings* to Avoid Mexico,
- 5) National *Socioeconomic Problems*,
- 6) Primary Economic *Benefactor Downturn*,
- 7) Global *Economic Downturn* and
- 8) National *Historic Drought* Conditions (explained in Chapter One)

occurred while I was doing my research and colored the research process in physical, emotional, and economic ways throughout the process.

My role as learner was clearly obvious throughout the research process since those I interviewed did not speak my native tongue; my obvious cultural heritage was northern European. Researchers have documented the challenges participants face when cultural differences are present (González, 2001; Moll, et al., 1992; Ogbu, 1992b; Rogoff,

2003). I depended heavily (entirely for verbal translations) on the bilingual abilities of Jolene Gailey¹, who as my translator was a "gatekeeper" (Grumbach, et al., 1999; Tushman and Katz, 1980). For me, Jolene held the key of language fluency and reading literacy. For the caregivers, Jolene was also a gatekeeper for those who were either unable to read or at best did not read above a fifth grade level (Delgado-Gaitan, 1993; Falco, et al., 2004; Hayes, 1992). Jolene was at my side, growing personally and professionally along the Arizona/Mexico border for six years before she began administering the child caregiver interviews for this study in Central Mexico. Although her formal academic training did not lead her into graduate school, she had developed a cultural understanding that far surpassed what I strive to accomplish in my lifetime or within an academic format. My faith in her interpretation of what was said, meant, and implied by the multitude of Spanish-speaking informants made this study possible. Her cultural lessons began in sixth grade when her best friend, who was from Argentina, began to teach her Spanish; she eventually became a missionary in Columbia that led to a life-long study of the Spanish language and culture. This experience made her contribution pivotal to maintaining quality records and the reliability of this project. In the same manner as Spatig (2006), we became "*a close-knit band united personally and professionally, and finally to a more egalitarian community of learners.*" Jolene and I professionally became united in our appreciation for the opportunity to learn about the culture and personally become immersed into the culture as residents of the 'campo.' Researching as a team resulted in people confusing our first names, as we taught

¹ ¹ All organizations, locations, people's names are changed to protect anonymity. Only my name, my husband's name and the name of my translator are real names unless otherwise noted within the text.

professionally and learned personally every day side by side (Creswell, 2003; Fine, 1992; Spatig, et al., 2006; Stanley, 1990; Strauss and Corbin, 1998).

My initial IRB approval for my pilot study research began in May 16, 2008. This second study followed a year later and was extended until June 8, 2010. Jolene and I had become a two-person team of researchers in March 2006. At that time we worked as a unit in the design, building, development, and training of thirteen Spanish-speaking women who came to work in a bilingual early intervention and child care center about three miles from the Sonora, Mexico border. Our informal research goal was to find out what the women needed to run the school themselves. Only four of the women were bilingual (Spanish-English), only two had any post-secondary education and only one any business training, yet in August 2007, they successfully took over the school with thirteen employees and one hundred and twenty children from age three weeks to fifteen years. During that fall 2007 semester, Jolene Gailey became my translator gatekeeper for my first educational research project. Our two-person team interviewed all thirteen women in the childcare center. The richness of that research experience made this study feasible. We became "*familiar with the content and organization of the conversation under study*" (Little, 2002) within Mexico/Arizona border town research project (Mackenzie, 2007). We were aided by a multitude of *expert informants* (Little, 2002) /*cultural informants* (Slaughter, 1991) from Central Mexico whom we visited every summer. Every effort was made to avoid entanglements, misunderstandings and misinterpretations by conducting months of multi-faceted interviews with long established residents of rural Central Mexico who imparted useful information regarding cultural differences (Ogbu, 1992b; Rogoff, 2003). González (2001) has made it clear that we will never understand

completely what is going on within a language other than our own native tongue, therefore our efforts must be as extensive and encompassing as possible to avoid as many misunderstandings or misinterpretations being reported as possible.

Original motivation/inspiration question.

The same question that was behind my research in 2007 continues to perplex me today and it continues to be the underlying, question behind this research: "*Why do Mexican students (whom I know to be my genetic equals), underperform academically in the United States and in Mexico?*" (Fry, 2009; Lopez, 2009; McLaughlin, 2002; NCES, 2001; Ogbu, 1992b; Rogoff, 2003). The position I have taken over several years is to break this overwhelming question into smaller inquiries. When I find some answers, I anticipate piecing them together as I continue to discover various approaches that allow me to more accurately answer this primary question. First I applied an *action research process* by learning more about those around me, and in the process of applying this mode, I also learned more about myself (Herr, 2005; McNiff, et al., 1996). This self-awareness has helped me to more accurately identify how to take my experience and ability to focus on a single research goal and best apply them to finding answers related to my original question "*Why do Mexican students underperform academically in the United States and in Mexico?*"

Study Procedures

The study was designed using a subjective observation and interview tool (Appendices C, C.2, C.3). The categories were conventional, in hindsight, not as holistic as I would have liked. This study occurred deeply within a foreign country, therefore, for

the first six months after moving my two-person research team focused on becoming better oriented into our new environment. The physical surroundings commanded explorations and we both felt a heightened awareness that we were the learners; guided by a desire to learn from those being observed (Moll, et al., 1992). We both realized that conventional rules rarely apply when an emic study is underway because those being researched define the rules; the researchers must adapt as willing participants within the format of learning (Fine, 1992; Strauss and Corbin, 1998), however this first step required more physical and emotional adaption than either of us anticipated.

Near the end of the period of our social and individual adjustments, Mexican officials agreed to allow this research project. All paperwork was put into place for us to begin and we received our first schedule of visits. As our confidence and comfort levels increased, so did our ability to make visits into the clinics using identical procedures: I was the observer of the infant or child while Jolene interviewed the caregiver. Back in my home office all data was recorded, analyzed, and stored for later reference. This smooth system was interrupted by holidays and other environmental events previously mentioned (pg. 74); we adapted and learned from each experience. Nearly a year passed while data was collected, analyzed, taken to another state for verification of accuracy, and feedback from my co-chair. Jolene attended each of these meetings because of her intimate involvement in the entire process of collecting and verifying the accuracy of the data.

Selection of the participants.

We did not choose the participants, they were chosen for us. A Mexican Department of Health scheduler randomly assigned us to clinics according to the days of

the week that the clinic normally held their early stimulation program or when the medical doctor in charge wanted me to arrive. The medical personnel posted handwritten notices directed toward regularly scheduled early stimulation classes and rarely did or said anything differently when I visited because often times the medical personnel did not have a confirmation or notification of the pending visit. The early stimulation classes were designed for indigenous children under school age; however, frequently after my arrival, medical personnel or parents would ask if I minded observing an older child; I always agreed. Anyone who attended the class, heard the introduction by Jolene and asked to participate was accepted. On four occasions, medical personnel stated that specific parents were asked to bring a child because exceptionality was suspected (Mackenzie, personal journal, July 18, 2009); only once did the parent comply.

The Mexican Department of Health does not have phones in the rural clinics. Furthermore, Internet access was not available anywhere in the local predominately indigenous villages ('pueblos' or 'campos'). Communication was difficult both going into and coming out of the clinics. No appointment was necessary for the open early stimulation classes. Doctor's visits were normally on a first come first served basis. The only means of communication between a patient and clinic was verbal and in person, since the locals did not have phones or Internet access in their homes, most locals even lacked a physical or mailing address. According to information from clinic employees, the periodic meetings with department heads were the only way the medical personnel communicated with the main health department office.

My team frequently arrived for an observation and the medical personnel had forgotten they scheduled a meeting or their department head had chosen a date for

researcher to visit and did not inform the clinic. This was not a problem if the time and day of my arrival was consistent with when that clinic normally held the early stimulation program, but if it was not, I left without participating, as there would be no one there to observe or interview. The following journal entry expresses our adaptations that occurred at that time.

Acceptance of this method of living without well defined appointments and parameters was all a part of the learning process of how life was integrated within rural Mexico: the dates and times of meetings, like highway stop signs, are only suggestions. Once this was understood, some of our tolerance and understanding of cultural differences was expanded (Mackenzie, personal journal, 2009).

Description of the setting.

All of the rural clinics were painted a deep blue and white and were geographically far apart in indigenous communities; little else was consistent about them. Most of them had a medical doctor working, three of them had two doctors, but sometimes only nurses were working. In one clinic, there had not been a doctor in the clinic for over two months since the contract for a doctor had not been renewed. In some of the clinics, there were rooms set aside for the early stimulation program often characterized by foam cutouts on the walls, a crib with a handmade mobile strung across it, or some other indication that the room was used to work with indigenous infants. A few of the clinics had toys, foam rubber floor cushions, an examination table/padded counter, and/or a counter with a pad or other medical needs accessories such as a baby scale (Mackenzie, 2009).

The following journal entry further explains the clinic settings in a general way, however, since we visited eighteen clinics, there existed a lot of variety among them.

Sometimes Jolene and I, plus parents, an infant, and siblings shared a room with a doctor or a nurse and a patient having no relationship with the early stimulation class or this study. It was common for the entire family to be present during any medical procedure and it was not uncommon to have strangers present during the study, as that occurred in most settings within the culture. In most cases, people were open with information and appeared comfortable speaking among others (Mackenzie, personal journal, October 11, 2009).

The following journal entry further explains clinic findings on a social level outside our normal expectations. In this example, this is one way that parents sometimes answered the open-ended question at the end of the interview. They took it as an open invitation to talk about issues other the child we had been observing. Also, privacy was handled differently than was the research team's custom.

In a few cases, a woman spoke to us about personal concerns in her relationship with her husband that probably would not have been mentioned if others had been present. Apparently, the indigenous rural Mexican does not have confidentiality rights within medical settings and is not 'personal space greedy' in general regarding personal allocation of facilities (Mackenzie, personal journal, March 5, 2009).

The following journal entry further explains clinic findings, this time as a class status observation. We had total confidence in the informant and therefore felt this was

an appropriate entry to help better explain more challenges that parents face inside the ‘campo.’

In the summer 2009 a researcher from the University of Arizona reported to the primary researcher that medical personnel, who are typically higher on the Mexican social class structure and certainly not indigenous, treated one of the indigenous special needs children and her mother with disdain and disregard. This was the exact same information that was shared by other researchers from University of Arizona working with local teachers. Teachers are typically higher on the Mexican social class structure and certainly not living in any indigenous community (Mackenzie, personal journal, August 4, 2009).

Parents or other caregivers.

I observed that, in general, the indigenous women are very modest and typically have few opportunities to gather information about domestic matters, health or other valuable knowledge easily available in more developed countries. The following journal entry demonstrates that although that might be a correct observation, there was no indication that the women did not want their children to have access to information about domestic matters, health or other valuable knowledge accessible with fluency in other languages through access to the Internet or books in languages other than Spanish. Data showed that the women appear to want their children to have access to information available outside their ‘campo’ or more career options in a nearby city as the following entry demonstrates.

Many of the locals have stated that they want their children to be bilingual in order to have more economic advantages (Mackenzie, personal journal, October 30, 2008).

Families have close relationships that include concern for economics and other forms of interdependence. Researchers on Mexican bilingual families have found that the close family ties within the home resulted in a quiet acceptance and deep joy for each member doing their part to help the family (Dorner, et al., 2007; Valdés, 1996) become economically secure. The extended family provides cooperation and mutual support. What works well within the family unit, works equally well within the schools' curriculum (Casper, 1996; May, 1994; Middlemiss and McGuigan, 2005; Taylor, Serrano, Anderson, and Kendall, 2000). Rural central Mexican families, whose members are Spanish-speaking, are typically Limited English Proficient (LEP) even though English is taught in the schools. The home frequently lacks printed material in any language and therefore lacks parental involvement in helping with English homework (Lara-Alecio, et al., 1997); attendance at our English classes offered in Central Mexico verifies this first hand with the following journal entry.

Many local people explained to me that, as a group, isolated indigenous rural women are shy about seeking out information. They frequently lack the ability to read and are deficient in the technological sophistication needed to comprehend how to retrieve printed or electronic information due to a lack of physical access to a source of written material or the Internet. Once indigenous people had access to information, they requested more (Mackenzie, personal journal, June 18, 2008).

Frequently the women are physically abused and many are abandoned (usually with children to support). Alcoholism is common in both genders and incest is not uncommon. Darker skin tones increase the chances of being socially rejected (Worby and Organista, 2007). Living in abject poverty is the norm and the need to preserve any physical or natural resources is well understood (Chawla, 2006; Ewert, et al., 2005).

The best and brightest succeed by being innovative, using readily available discarded or natural products to reduce hunger. This spirit of innovation is what allows them to survive their daily challenges (Mackenzie, personal journal, 2008).

Infants, children or youth.

For these infants, children, and youth, developmental delays or other special needs may go unnoticed. Mexican medical personnel admitted this to me first hand. From the youngest medical intern to the head of the department of health, all agreed that they have very little training in recognizing disabilities, in where educational special needs services might intervene and in how medical staff might help patients overcome various developmental delays. The Mexican teachers might spot a learning delay after the children enter school, but even teachers have little training in recognizing disabilities and how to enact effective interventions. Additionally, three or more years may have passed before a developmental delay has a chance to be identified by a teacher. For indigenous rural Central Mexican children, school is not mandatory that it be offered to a rural community until age four, a year after most urban areas, where school is required at three. This means that in indigenous rural areas pre-school is often delayed and not offered until age four or five due to a lack of available teachers, transportation for teachers (who cannot afford cars), and/or facilities in which to hold classes. The loss of

two or three years of formal instruction coupled with the reduced likelihood of identifying developmental delays at an early age puts indigenous children, especially those raised within indigenous rural areas, at a disadvantage (Poblano, et al., 2002; Post, 2001). The early stimulation program that was central to this study attempted to overcome that disadvantage for these people residing within indigenous communities.

Instrument

Past researchers chose to develop culture-specific instruments and in order to get a more accurate assessment; this necessitates a focus on a community level instead of national one (ERIC, 1999). This is the same choice I made in this study. It has been established by past researchers that a predominately indigenous population requires a more holistic situational approach. This is far more accurate than employing criteria more appropriate to white Western children (Kagitcibasi, 1996). In this study, the original questions on the self-created assessment instrument were never altered, but they were realigned to include three questionnaires between the age of birth and 365 days instead of one where many questions were either not appropriate to a newborn or difficult for caregivers to answer due to limited interview experiences and typical shyness when speaking with a stranger. It was reported in 2008, a year before this study, that more than 30 million nationals, one third of the population, either never attended school or did not finish nine years of schooling (INLI, 2008, as cited in Forlin et al., in press); this fact had to be taken into account to make the questions understood. Therefore, although the protocol was never altered, a total of five outside academic translators assisted in fine-tuning the Spanish translations to accommodate the limited literacy of predominately indigenous caregivers who were interviewed.

The investigation to locate an appropriate instrument was clearly a challenge due to the diversity factors previously mentioned requiring careful consideration. The search began by

- (a) defining what cultural values, influences or other factors would best be appropriate to ask within a caregiver interview,
- (b) looking for an appropriate assessment instrument that would be culturally unbiased in order to have valid results,
- (c) determining if mothers were currently advocating for their special needs children and receiving special educational services, and
- (d) finally, evaluating the value the research might be to the public.

To determine what cultural values, influences or other factors might be present, this study examined geographic, linguistic, socio-economic, political, religious, and educational influences which might affect the accuracy of the assessments used to determine developmental delays or other special service needs for indigenous children (Kelly, et al., 2006) living in rural areas of Central Mexico. Then it was necessary to determine if a culturally appropriate assessment tool could be located or would need to be internally created.

My team also considered if there were culturally appropriate ways to empower mothers after the study ended, so that they would be primary teachers of their indigenous children for at least for the first three years of their lives or at least until they entered preschool (WHO, 1996). Some tools give feedback that would help to direct such an effort. This was a major consideration for our team since the educational structure of Mexico has resulted in official reports of frequent repetition of grades, high

dropout ratios, and low achievement rates (Forlin et al., in press). We speculated that mothers might need remedial training in health and other areas for which their mothering skills might lack sufficient development. The long-term follow-through goal of this project is to make the information in this study readily available to those educators working in the USA and Mexico to enable their Mexican students to achieve academic success by having more information on what approaches might enhance learning. This is an important step toward making positive change because statistics have shown a negative trend for many years related to high school graduation. Nearly half of all Mexican indigenous children living in the United States of America and attending public school do not graduate from high school (NCES, 2001), despite the fact that many Mexicans set life-goals to begin after high school graduation (Flores, et al., 2008). Providing mothers with more education in order that they may become teachers to their own children has been found to be a direct and positive approach to reversing that negative trend of academic shortcomings (Todd, 2005).

I seriously considered numerous publically available instruments. The most seriously considered were the Ages and Stages Questionnaire (Bricker and Squires), the Child Development Inventory (Ireton) and the Battelle Development Inventory (Rydz, et al., 2006). Unfortunately, none of those instruments were appropriate for indigenous rural health clinics in Central Mexico for a variety reasons that I will explain.

Considerations when choosing instrument.

The Ages and Stages Questionnaire in Spanish would have worked had the level of language used within the questionnaire had been comprehensible to the caregivers or parents. Several professionals, including myself, agreed that the majority of the mothers

lacked the level of verbal language comprehension necessary for the Ages and Stages Questionnaire in Spanish to be utilized. The Child Development Inventory had two disadvantages. First, it is only used with children between the ages of fifteen months and six years. Our early stimulation program was directed at infants; therefore, who were younger than fifteen months and secondly, it required thirty to fifty minutes for the administration. That time factor was excessive, as we normally saw three to four indigenous children each hour. That standard could not be adapted that much further to accommodate this study. That fact also eliminated the Battelle Development Inventory; however, it remains the choice for my postdoctoral project. Even allowing for more time, it is not perfect since it will require extensive re-working of the language to translate it appropriately for these participants.

The procedures applied with the instrument.

I developed the questionnaire based on personal experiences, notes from university classes, non-copyrighted academic reference material developed, and my own success with testing it and finding appropriate follow through. I developed it between March 2006 and August 2007 when I was director of a day care and pre-school serving one hundred and twenty children, ninety-nine percent were of Mexican origin. Near the end of that employment position, I was certified in Early Childhood Special Education birth to age five by the State of Arizona. Preparation for that specific assessment required the accumulation of knowledge of the types of information needed to determine suspected developmental delays. The instrument was further modified from my

academic notes. It was called the Child Developmental Checklist - Developmental Delay Analysis (Appendix C).

The Child Developmental Checklist - Developmental Delay Analysis was divided into two parts. The first part was the history sheet, which was exactly the same for all ages of children. The second part was the questionnaire was based on the age of the child. It contained a semi-structured series of questions asked of the parent or other caregiver of the child by the translator. The questionnaire, Child Developmental Checklist - Developmental Delay Analysis, was made of a one-page history and overview and then an average of one page of questions. The questionnaire was divided into nine age categories according to days and months of age. This internally developed instrument was a blend of questions written in English that were similar to ones utilized in public domain questionnaires or in my former daycare preschool when I was seeking similar information about the development of normally functioning non-economically disadvantaged children. Great care was used to focus entirely on the child's physical abilities and achievements, excluding questions about personal family income questions, living arrangements and other factors that might intimidate an indigenous person with a language barrier. If the parent or other caregiver was intimidated by questions regarding the disadvantaged household, the likelihood of expressing other health or educational concerns regarding the child might be reduced, and the primary research focus (evaluation of children's developmental delays or special needs) would be compromised.

Normal procedure for using the history sheet component of The Child Developmental Checklist - Developmental Delay Analysis was followed from the first clinic visit to establish a consistency. I recorded observations of the child. Jolene read

the questionnaire to the parent or other caregiver and recorded their replies. Observations were recorded in handwriting, often in the handwriting of Jolene, my gatekeeper translator. After handwriting, Jolene would read each question to the parent or other caregiver of the child and record either "yes", "no" or "appropriate" to the replies by the parent or other caregiver of that specific child. The breakdown of the number of questions asked for each age group is shown in Table 3.0.

Table 3.0

Age of Infants, Children or Youth and Number of Questions

Age in Months	Total Number of Questions
0-2 months	11
2-6 months	16
6-12 months	18
12-18 months	21
18-24 months	18
24-36 months	19
36-48 months	20
48-60 months	23
60+ months	23

In each case, there was space on the questionnaire for any additional questions or concerns brought up by the parent or other caregiver of the child being examined at that time. Both the history and the questionnaire were freely covered with notes and observations; thus the classification as a semi-structured questionnaire.

Five different people worked to obtain a level of language appropriate to indigenous rural Mexican Spanish-speaking participants by translating the Child Developmental Checklist - Developmental Delay Analysis instrument independently. Even with that extensive effort for clarity, mothers were often confused by the questions. It appeared that they did not understand the concepts being asked. *The concept of the mother being the child's first teacher was one of these frequently misunderstood points.* (Mackenzie, Personal journal, July 13, 2009). They also had difficulty *.....noting if the child found transitions from one activity to another* (Mackenzie, Personal journal, 2008). *Being able to answer a question about the child's specific abilities (i.e. if the child could*

draw a circle was a challenge) (Mackenzie, Personal journal, 2008) because offering a child paper and a pencil inside the home was not a common occurrence.

Before the first interview, we knew that these mothers or other caregivers, who were living in third world style structures, often with no male physical or financial assistance for months or years at a time were extremely concerned with survival. They carried the often-solitary burden of having the overwhelming responsibility of physically caring for and economically supporting many children. Frequently, they appeared to have little comprehension of questions that might be asked of them in a more physically and financially stable geographic location (Does your child understand a circle?). How could they consider any abstract thoughts, when survival was always in question? Within a cultural setting where early childhood information and expectation of educational advantages might be available, or where intervention was the norm, these caregivers would likely appear more focused on educational matters and less on basic human survival.

Rating scale rubric used for scoring the instrument.

A subjective scoring tool, a rubric, was created to use in this study. This disclaimer is inserted to make certain that it is clear that this rubric was not a previously tested or researched tool. I created and utilized the method, format, and design of the rubric. To obtain data presented in the tables of this study, I incorporated the results I found using this rubric into my data results worksheets. The percentages are not scientifically obtained they are instead the results of the data from applying the rubric. There was clear effort for accuracy by comparing observations of the child, the replies to

interview questions by the child's caregiver and any additional questions or comments by the caregiver. In this case a simple reply of "yes, no or other (left blank)" were the only acceptable answers in section second; "yes or no" in section first. Each answer was entered into Excel and later verified in SPSS as a 1, 2, or a 3 in order to gather data simply, accurately, and uniformly. We also made sure to allow for self-evaluation, insight, analysis, and peer review. Data results from the rubric were used to develop tables included in the findings section. My western perspective is likely biased because I was raised in the United States and am of Northern European decent. My background should be considered when determining what level of bias might be present when using this subjective tool.

To make this explanation easier, this area will consider only one of the nine categories and that will be the youngest and smallest one. It should be understood that all nine categories each had their own rubric. What follows here is an infant rating scale rubric named "First" and "Second."

FIRST - Observation by researcher, age of child : birth - 60 days, included:

Each area was ranked "Yes" (within normal ranges) or "No" (Outside normal ranges). Under the entire sheet there was a space for a clear indication of disability or any additional comments by the caregiver, Jolene or myself.

First Impressions

The size and shape of all body parts, skin color, whites of eyes, muscle tone, hair appearance, plus the attitude and overall look of the child was considered. The

entire head was felt and the entire body outside the diapers was visually examined.

Gross Motor

The legs and arms of the child were manipulated to check for resistance, as well as a visual examination of the stomach, back, and rest of the body.

Fine Motor

My finger was placed in the palm of each of the child's hands to see if a primal grip reflex, found in a typical healthy infant, occurred or not.

Auditory

I clapped my hands to see if the child responded. If in doubt, I asked the parent and noted "no response" with whatever the parent had observed.

Visual

I did my best to move my face into the child's field of vision and also to move a toy around in front of the eyes of the child. I looked for tracking of the eyeballs on the object or turning their tiny face toward the light of a window or otherwise.

Social /Emotional

At this tender age, not too much would be obvious other than extreme distress or falling asleep in a very contented manner; whatever behavior was present was noted.

Focus and Attention

Behavior such as sleeping, quiet breathing, some interest in the outside environment or a body jerk due to any voice or sound would be what I defined as within normal range. Any deviation from sleeping, quiet breathing, some interest in the outside environment or a body jerk due to any voice or sound would be noted as outside of normal, especially if the caregiver confirmed the same behavior in the family home.

Final Summary

A limited amount of textual notes were written for each of the above seven areas of interest. The Final Summary was the open-ended area where comments by the caregiver, Jolene or myself were optionally added.

SECOND - Interview of caregiver by translator, age of child : birth - 60 days, included:

Each area was ranked “Yes” (caregiver agrees that there is normal behavior), “No” (caregiver feels that behavior is outside of normal ranges), or “Other” when the caregiver does not reply or states that they are unable to reply. Under the bottom of the sheet, there was a space for a clear indication of disability or any additional comments by the caregiver, Jolene or myself.

- 1 Moves arms and legs easily?
- 2 Firm finger grasp?
- 3 Responsive legs?
- 4 Eyes track an object or person?

- 5 Responds to a noise?
- 6 Does your child turn toward your voice?
- 7 Does your child move their eyes toward a light bulb or window light?
- 8 Does your child move their arms or legs to sound or movement inside a room?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food-leaks milk- sucks poorly)?
- 12 Do you have any questions, concerns or problems that you would like to add?

In each case from one to eleven the answer was “Yes,” or “No” or “Other (left blank).” Question number twelve was the open-ended area where comments by the caregiver, Jolene or myself were optionally added.

Data collection and collection time frames.

Data collection was divided into two different time frames because of outside forces beyond my control. Data were collected over a twenty-seven week period, predominately in the last half of 2009. Data collection occurred January 12 to February 25, a total of seven weeks, and June 12 to October 30, an additional 20 weeks; field notes included those that began in May 2008 with the pilot study and notes back to May 2005 when I first visited Central Mexico as a graduate student and began to record what I observed. Data were gathered from multiple sources, triangulated and cross validated and then analyzed qualitatively by comparing field-dependence and field-independence characteristics (Garger, 1984; Witkin, Moore, Goodenough, and Cox, 1977). This

occurred as a means to explain adaptation of children due to cultural surroundings without the use of a deficit model. The other option, an exceptionally long-term field work research (Kemper and Royce, 2002) was also not employed. Care was taken to better understand cultural differences within the time frame of two years and the parameters of this single study. In the same way that bicultural students adapt their language to the situation (Baez, 2002), people's behaviors often adapt to their cultural surroundings (Kelly, et al., 2006) and our goal was to record accurately what we observed and then find out what each action met.

Screening procedures for participants.

The first step taken involved the distribution of one hundred copies of a preliminary survey to determine what needs existed inside the indigenous community where the primary researcher resided; only two people replied in writing, both high school students. There were four others received in the form of verbal replies from local social leaders. Our ignorance of what was obvious, so local and regional political leaders were contacted for guidance. After talking with the mayor of the community, information was obtained that illiteracy was the norm and that people could not read the survey. It was also revealed to the team that information communicated within a village required an official seal from the Mexican government or else it was disregarded. Later, another flyer was designed to inform residents that research would be conducted after both a doctoral committee and IRB approval; this was only distributed to local political leaders of the communities within a thirty-mile range; leaders from whom locals received this information. Several of these local political leaders invited presentations at their

meetings over a six-month timeframe. Dr. Fletcher, my doctoral advisor or a translator attended all meetings. In all cases, the project was endorsed by Mexican health department authorities and was finally put into writing (Appendix A). Many *expert informants* (Little, 2002) explained to me that anything put into writing by a Mexican administrator is far outside of the norm. Mexican administrators avoid written records that a new political party might locate, a precaution against finding employment.

Methods

Triangulation methods were incorporated in this study. Triangulation methods included multiple observers, several theories, qualitative (inquiry) and quantitative (validation) methods, and empirical materials. Empirical materials were defined in this study as documentation, archival records, interviews, direct observations, participant-observation and physical artifacts (Yin and Moore, 1987). Jolene and I worked as a research team (Spatig, et al., 2006). Before beginning the research, we were participants, "involved observers" (González, 2001) who had lived and worked for months with parents in one of the marginalized rural communities in the study. Qualitative data were validated through personal and group interviews with informants to make certain we understood what we saw and I recorded. Individual interviews were the questionnaires we used for quantitative analysis countable "Yes," "No," or "Blank" replies. This study used triangulation (observations, interviews, and informants) or mixed methods (qualitative and quantitative) with a transformative paradigm because I felt the need to "create understandable designs out of complex data and analysis" (Creswell, 2003) and we want to create a post research program. The primary theories consulted were Feminist and Participatory; we began to "see" our new environment in a much more

clearly defined manner and understand it at a far more intimate level since we felt more informed.

"Feminism is not merely a perspective, a way of seeing; nor even this plus an epistemology, a way of knowing; it is an ontology, or a way of being in the world"
(Stanley, 1990).

Participants.

Throughout the community, neighborhood informant families in rural Central Mexico were contacted to develop insight into the culture and the most pressing needs of the residents so that a study might be developed which had value. While making my way around to talk to local residents, I met a local medical doctor, Dr. Lidia Rios Villalpando (real name used by request), standing along a dirt road in my local area. She was visiting the preschool near my home. Two weeks later Jolene met Dr. Lidia Rios when Jolene and I participated at a beach clean-up project that Dr. Rios had organized. It was then that Dr. Lidia Rios talked more to us about my research interests and suggested we consider researching within the early infant stimulation program with the department of health. Due to this arrangement, there was no formal participant selection. When people attended a class that we had been scheduled to cover, Jolene read the formal research statement and people made a choice to stay for the research or leave and wait for another class offering.

Parent interviews.

All participants were assumed to be of indigenous Mexican-origin; the only selection criterion was their voluntary participation in a rural health clinic program. Jolene addressed the participants as a group; she read the research introduction (Appendix C). Later, each parent or caregiver was interviewed individually using the semi-structured questionnaires to conduct interviews (Appendix C). The following journal entry outlined our structured procedures throughout the study.

Jolene, the translator gatekeeper, read the questions to the caregiver while I assessed the infant, child or youth and asked or answered additional questions or concerns raised either by the parent or me. Interviews typically lasted only a few minutes, they averaged three to four an hour, but occasionally an interviewee had several questions and the interview might last an entire hour. Those caregivers in the waiting areas always waited without indications of impatience, even if the children were restless; mothers adapted to the situation. They would comfort and care for their offspring without the use of toys, books, child-sized blankets, or other individual commercial diversions so often found in more developed societies (Mackenzie, personal journal, June 30, 2008).

The initial interview questionnaire was modified very slightly, in a derived emic approach (Rogoff, 2003, pg. 31), because the word for leg and the term for crawling were not understood. The English translation was exactly the same but the change was needed in the Spanish wording to accommodate the indigenous dialects encountered. Even with modifications to the spoken word by the gatekeeper translator to make the questions more

understandable, the mothers were often unsure of what they were being asked. The following journal entry further explains the situation we repeatedly encountered.

It was determined by observation and by questioning Mexican professionals that indigenous mothers often lacked an understanding of the concepts related to either the education of their child by a parent, like teaching a child their own birthday, or the need to observe and recall the activities a child had mastered like drawing circles or the expressing of their child's thoughts by making a full sentence. Some of the mothers simply would not know if their child could understand the concept of adding things together if they could or tell the difference between a burro and a dog (Mackenzie, personal journal, December 11, 2008).

Observation and assessments of infants, children, and youth.

The children in this study were from small, isolated, rural indigenous communities. I assessed the language and dialect of indigenous children visually, looking for a hair-lip, malformed jaw, or other physical problem, when mothers pointed out that a speech problem existed using the history section of the self-designed form titled The Child Developmental Checklist -Developmental Delay Analysis (Appendix C). Infants were visually examined for physical attributes such as skin tone, weight/size, alertness, and response to stimulation. They were also physically examined for strength and grip, along with leg strength. The translator read the questionnaire (Appendix C) to the parent or caregiver, usually the mother. Jolene chose the interview questionnaire based on the age of the child while I observed the child and made comments on the

standard history sheet. Children were later sorted by birth date and then individualized with a coding system based on the exact age of the child at the time of the interview and community center or health clinic, the place of the interview. Additional information including gender and answers to the entire interview questions and any identified exceptionalities were systematically tied to the coded identities.

Data collection procedures.

Data were obtained while I was functioning as research consultant for the Mexican government for the identification of developmental delays or other special needs existing in indigenous children who live in Central Mexico. The children live in non-urban environments and therefore visit rural public health clinics within the communities. The Mexican government has instituted an infant stimulation a program in health clinics called, the Early Stimulation Program ("Programa de Estimulacion Temprana"). This is a weekly or monthly class where indigenous mothers/caregivers bring their children. The goal is to instruct the caregiver in how to do exercises with their infant, all primarily physical. These exercises are designed to educate mothers or other caregivers in how to teach or relate to their infants. The concept is to complete this training before the child reaches the age of three when some children acquire access to public preschool and daily stimulation by a teacher. Indigenous mothers are encouraged, in these classes, to spend more time with their young family members under the age of three years. The parents are taught how to interact with or stimulate their infants, mainly physically, but medical staff told our team that the government also wants to encourage any caregiver interaction with their infants.

Jolene and I visited predominately indigenous rural health clinics assigned to us by Mexican health department authorities as a part of their ongoing infant health program. Initially Jolene conducted a group interview and read the formal research statement; she then answered any questions. As we began to see the mothers one by one, Jolene recorded the child's name, date of birth, age, gender and then usually handed the sheet to me. Whether I was observing the infants, children or youth and making or Jolene was contributing a great deal of handwritten notes, the mother or other caregiver was participating near us by talking, watching or commenting. Jolene then would read the semi-structured interview questions and recorded the replies. Data were analyzed qualitatively using long-term field notes (Kemper and Royce, 2002), which consisted of recorded observations, and notes on what was stated. Using my own rubric, the questionnaires and observation findings were analyzed quantitatively within Excel.

If the parent or other caregiver spoke an indigenous language as their first language and it was not Spanish, clarification was needed to verify understanding (and therefore accuracy). This was usually accomplished using the nurses within the clinics. The decision was made before the interviews began to read the questions aloud to the caregiver because reading the questions was emotionally uncomfortable, if not impossible, for many of the caregivers due to a lack of ease or abilities related to reading. By setting the standard of oral questioning, we assured that no woman would be made to feel singled out for her lack of literacy skills. This concern was also reflected in the lack of questions regarding household income, personal income or personal or family educational levels. Indigenous people are easily intimidated, and I knew that previous research and field notes would verify the general levels of poverty and educational levels

of indigenous rural Central Mexico communities. This study did not require anything more specific than public records.

Triangulation.

Triangulation includes (1) an analysis of notes made by the researcher or gatekeeper based on observations of the children, (2) the parent interviews and (3) field notes based on casual observations, and spontaneous interviews within an environment foreign to the primary researcher. Actual audio and video transcriptions were planned but not recorded because the Internal Review Board did not approve the tape recording of interviews.

Pilot study.

The Internal Review Board approved my pilot study in May 26, 2008 for one year. The title was “An Ethnographic Pilot Study: Understanding How Mexican Children with Disabilities Learn Outdoors.” The intention was to use the same title for the doctoral dissertation, but in November 2008, the committee rejected that title because no one in the committee at that time had a background in that area. The title accepted was Evaluation of Children for Special Needs in Rural Central Mexico.

Many lessons learned from the pilot study were applied to this study. The close interaction with parents gained from years of volunteering in the same facility guided us to using this same setting for the pilot study, as the transition would be much easier. Many cultural standards were more clearly understood due to the pilot study, especially the reluctance by parents to participate in any survey, interview or other investigation

unless current government approval had been secured in writing. They were also, understandably, skeptical about allowing someone into their home to discuss their special needs child. Much myths surround special needs children as this journal entry suggests.

Some Mexican fathers frequently considered a special needs child a flaw, an offspring to be hidden. That stigma had resulted in several mothers reporting that the children's fathers left their disabled children and wives (Mackenzie, personal journal, August 13, 2009).

Some communities were very accepting of children with special needs and others were more resistant and fearful of them being out among normally-abled children. Traditionally special needs children were hidden, but that has changed in recent years. Additionally, state politics, changes in educational policies, and a lack of reading skills make the written word something to fear; having a special needs child may make something in writing of value (like a medical diagnosis). Politics, changes in policies often interfere with the daily lives of Mexican citizens making anything in writing something to approach with suspicion; fortunately this lesson was learned during the pilot study and we better understood caregiver's hesitations.

Data Analysis Procedures: A Double Blind Approach

Qualitative: Analysis of observations of 'campesino' infants, children, and youth.

I felt capable to doing the observations with accurate recording of data. Specifically because observations of infants did not require language, since the infants were pre-verbal. This is a factor I had explored and gained experience in 2006 and 2007 when I was the director of a bilingual early intervention program on the Arizona/Mexico

border. That is why I felt able to do that aspect of the study. Like a blind or deaf person, when one sense cannot be accessed, the others must become heightened. My sense of touch, hearing, and sight needed to be more alert when working with infants due to the lack of language. Additionally, infants also lack the maturity to inform in a similar manner that I found in adults who are asked a question for which they have no previous experience. Researchers of infants or those of more maturity who lack the language or the experience are challenged by their subjects to acquire information and make conclusions based on *educated guesses*. With Jolene handling the interviews, that situation did not occur.

There were nearly sixteen thousand pieces (16,000) of information gathered and recorded on the Child Developmental Checklist - Developmental Delay Analysis history sheet, the observation tool. My intent was to analyze these observations separate from the caregiver interviews; I wanted a double blind approach to assure accuracy. This allowed an opportunity for comparing what my assessment training concluded and compare that with what the caregiver told Jolene in the interviews. If this observation tool was very different from the caregiver interviews for each child, then I might conclude that I was not capable of adequate assessments without language and/or that I was *disregarding cultural norms* and therefore insensitive to my participants. Personally, this part of the self-reflective data analysis was very important as it offered an early opportunity to make sure the right approach was being taken at the right time in our cultural adaptation to our new environment. The observation tool was used for collecting data for a total of 636 assessments of 'campesino' infants, children or youth (47.3% male and 52.7% female). All notes were analyzed by hand and the findings entered into

Microsoft Office Excel 2007 (Excel) spreadsheets for storage, easy access and comparison with personal journal notes. The categories defined from the history sheet were (1) all within normal ranges, (2) nutritional problems, (3) physical problems, (4) emotional problems, (5) language problems, (6) severe or profound problems, (7) cognitive problems or (8) gifted.

Qualitative: coding and themes of personal journal.

Electronic field notes began May 2008 and continued throughout the study. They were separated by the date and sub-coded using alpha characters when more than one entry was made per day. After repeat visit to the research site, notes were written; comments about day-to-day events and personal interactions or transitions were noted. When the writing of the dissertation began, these notes were accessed and incorporated into the dissertation in a manner that was thought to be most effective in conveying the emotional and social message from that specific community. My choice was to apply open, axial, and selective coding (Strauss and Corbin, 1998) to the qualitative data for ease of shorting. I reread six years of personal journals while selectively copying what I had written that would further illustrate the point I was making within this formal report.

Quantitative: frequency distribution analysis of observations of ‘campesino’ infants, children, and youth.

There were nearly sixteen thousand pieces (16,000) of information (Appendix C.1) recorded using the Child Developmental Checklist - Developmental Delay Analysis questionnaire that Jolene read to each caregiver. All data was divided into the nine age

categories: (1) birth to sixty days (0-60) of age had eleven questions, (2) sixty-one to one hundred eighty-two days (61-182) of age contained sixteen questions, (3) days one hundred eighty-three to three hundred sixty-five days (183-365) of age asked eighteen questions, (4) three hundred sixty-six to five hundred forty-seven days (365-547) of age had compiled twenty-one questions (5) five hundred forty-seven days to seven hundred thirty days (548-730) days of age recorded eighteen questions, (6) seven hundred thirty-one to one thousand and ninety-five days (731-1095) days of age contained nineteen questions, (7) one thousand and ninety-six to one thousand, four hundred and sixty days (1096-1460) of age compiled twenty questions, (8) one thousand, four hundred and sixty-one to one thousand, eight hundred and twenty-five days (1461-1825) of age asked nineteen questions, and finally (9) eighteen hundred and twenty-six (1,826) or more days had twenty-three questions. All questions allocated space for any additional questions or concerns brought up by the parent or other caregiver of the child being examined at that time. Additionally, (10) contained all the history pages and questionnaires where the birth date was either missing or not legible. All replies were analyzed by hand and the findings entered into Microsoft Office Excel 2007 (Excel) spreadsheets for storage, easy access and comparison with history sheets (Chapter 4). Each recorded comment in the caregiver interviews was analyzed in Excel and any exceptionalities were verified, counted and recorded. Data was then imported into Statistical Analysis Software (SPSS) only for verification and for comparison with the hand-analyzed, not because the questionnaire format was a statistically proven survey; it was not. The questionnaire was developed internally, it has not been proven valid by other researchers and the rubric was of my own design, not developed through empirical research.

The categories defined from the caregiver questionnaire were further sub-divided because the young participants were at different stages of development (Appendix E).

Analysis of Parent Interviews

There were nearly fifteen thousand pieces (15,000) of information (Appendix C.2) gathered from the Child Developmental Checklist - Developmental Delay Analysis semi-structured questionnaire used to interview the parents or caregivers of the 665 indigenous infants, children or youth. Each question was answered with a “Yes,” or a “No” or a “Blank.” This pattern became a 1, 2, or 3 in SPSS and the excel spreadsheets. All notes were analyzed by hand and the findings entered into Excel spreadsheets for my analysis.

Reliability

Reliability is important for any experimental research and even more vital if a study includes qualitative data. In order to ensure the observations were correctly recorded several steps were put into place. First, while on site in the clinics or centers, a procedure was developed and followed to verify that what was being written was considered accurate by those adult participants present. The primary researcher was unable to converse in the language of the indigenous child's caregiver, therefore, a far greater than anticipated effort was made to verify information between all people present. Due to the fact that many rural adults used a language other than Spanish part of their life, it was vital that the gatekeeper translator also verify any doubts regarding communication. Independent observations were compared to questionnaires for consistency. Triangulation (Maxwell, 1996), microanalysis (Strauss and Corbin, 1998), and frequent feedback with informants (Maxwell, 1996; Strauss and Corbin, 1998) were

all utilized to develop reliability and validity (Maxwell, 1996) as a basis for a grounded theory (Strauss and Corbin, 1998).

Procedural reliability.

The procedure put into place became the standard used at each facility. I would read my notes on each child to Jolene to determine if we agreed on what was being observed at that moment. Jolene would question the caregiver of the child, usually the mother, but there might also be another family member present who might also be offered an open-ended question. If there was any doubt between the adult participants, Jolene would further question the adult caregiver to make sure all that was recorded was accurate. Finally, after the interview of the adult(s) was completed, the bottom of each form allowed space for any questions or concerns; this allowed another opportunity to restate what was being observed and to bring to surface any notable undercurrents in a final summary. Additionally, a feedback sheet was developed, an exact copy of the history sheet, so that if the caregiver of the child wanted a written record it was available to them to take away for the other parent, a schoolteacher or a family relative.

Due to the typically quiet, humble, and easily intimidated nature of indigenous parents or other caregivers of the child every effort was made at the end of the semi-structured questionnaire to create an environment for further discussion in the form of an open-ended survey (Jackson, 2002) that could later develop into ‘concept mapping’ any area of repeated parental concerns. This verbal open-ended survey procedure was utilized as a means to encourage the adult to extend the interview because they had questions to ask or because I wanted more information regarding something observed or

left unclear that came up during the assessment. After each clinic visit field notes were written back at my computer office as a means to capture what was said and code appropriately in spite of lacking digital or visual recordings of the interviews (Creswell, 2003; Schensul, et al., 1999).

CHAPTER 4: MIXED METHODS RESULTS OF THE STUDY

"...the real merit of substantive theory lies in its ability to speak specifically for the populations from which it was derived and to apply back to them" (Straus and Corbin, 1998, p. 267)

This chapter directly answers the research questions and presents an analysis of the data. This study was originally conceived with the intention of locating influences or factors (causes) that might inhibit academic success (consequences) for Mexican indigenous children raised in ‘campo’ (Chapter 1 - definitions of terms). Special education professional educators seek those children having developmental delays with the intention of applying intervention techniques as a means to overcome challenges inhibiting the meeting of educational milestones typical of their peers. My assumption was not to embrace theories of a linear cultural societal evolution (Rogoff, 2003) but instead to consider diverse individual cultural growth from a insider/participant position (González, et al., 2005; Kottack, 2008; Moll, 1992b; Moll, et al., 1992; Ogbu, 1992b; Rogoff, 2003).

This study utilized emic and etic perspectives within a mixed methods qualitative and quantitative format. By living within the community as an active resident of the community for nearly two years, I became an insider (‘an emic participant’) in this research project. I began in my own neighborhood health clinic at the beginning of the child’s’ life cycle, observing and examining indigenous infants and interviewing their caregivers in the same manner that other researchers have examined infants from diverse

cultures in search of answers (Kelly, et al., 2009; Kelly, et al., 2006; Kelly, et al., 2006b). Dalton Conley (n.d.) stated that during the course of studying another language, race or class is when your own language, race or class will finally be understood (Rogoff, 2003). By looking at the factors used to determine developmental delays (one or more missed milestones), I could continue to research until a clear pattern of answers led to the conclusions expressed in this Chapter 5 of this study.

Before and throughout this study, I lived in a '*campo*.' My own heritage roots (Polish farmer) were '*campesino*'; I still, however, remained an outsider, learning from those around me in seeing how they coped. They were teaching me how to exist in a world where those from outside label those living inside a '*campo*' as existing at the bottom in terms of quality of geographic space, social class, use of language and dialects.

The indigenous '*campesinos*' understand the *social realities* of their position in life. I came to realize that until an indigenous '*campesino*'s' place was acknowledged as the baseline from which to move upward, by acknowledging that they could move upward, those in the '*campo*' would never develop a virtual warehouse of personal success stories. It appeared that the upper class Mexicans worked hard to reinforce that, for '*campesinos*' at least, upward mobility was impossible. One of our informants, a medical doctor on sabbatical teaching English in a public school in Central Mexico remarked, "*Mexico is not a merit-based society. My students have no motivation to study; their parents see no reason to ask them to do so either*" (Mackenzie, personal journal, December 14, 2009). The social class status in Mexico is evident from the way language is used; those in the lowest class typically accept this role in society. *Learned hopelessness* extracts youthful motivation and leaves acceptance and lethargy in its wake.

The quote below so well points out that we are all one: "*A rich man doesn't have a bigger stomach than a poor man and doesn't digest better than him; the master doesn't have longer or stronger arms than his slave; a respected man is not more important than someone from the masses; and ultimately the needs of them all are the same, and so should be the means to satisfy them*" (Rosseau 1762/1966, p. 251 as cited in Arenas, 2008). Although quotes similar to this may have been read before, living inside the 'campo' reminds me that a reread is a very valid exercise if the emotion of hopelessness is to be eradicated.

This chapter was designed to answer the research questions asked in this study through an examination of the information discovered in observations and semi-structured interviews. Casual interviews and local conversations were also examined when they further explained the information gathered via the research questions. Very brief answers were followed by complete explanations of the results of observations, including child assessment notes and parents' interviews. Qualitative field notes were incorporated specifically when clarity was in question; quantitative tables and figures explain relationships between variables. Specifically, I considered the following questions stated here:

Research Questions

Research question one.

Are predominately indigenous infants, children or youths* living in rural Central Mexico 'campo' more likely to be labeled developmentally delayed or as having special needs when evaluated by a researcher educated and trained in the

USA? Will assessments of Mexican children by a researcher educated and trained in the USA be more likely to ignore the funds of knowledge (Gonzales, Moll and Amanti, 2005) acquired within rural cultural communities? Might these researchers misunderstand cultural influences or other culturally based factors?

The immediate answers are “Yes,” because without factoring in cultural differences in how children are raised, published USA guidelines for milestones would be unattainable in nearly every infant. My observations did not uncover health problems that the mothers were not aware of, however, my standards of acceptable nutritional levels were significantly higher than what caregivers were willing to accept as normal for their children and for themselves. The majority of the caregivers understood that the children under their care had health needs, what the caregivers lacked was the knowledge of nutrition to better meet the health needs. The caregivers additionally lacked the means to earn income necessary to purchase food or access to services to assist in obtaining what they did not have for the children or themselves.

Research question two.

Are predominately indigenous infants, children, and youth* who are living in ‘campos,’ educationally marginalized because of their position of being in the lowest socio-economic tier?

Data implies that their low socioeconomic status is why they are undernourished. It is very difficult for a child to learn when their brain lacks proper nutrition for growth. Although I agree that some assessment standards ignored those funds of knowledge (González, et al., 2005) acquired within rural cultural communities, such as the ‘campo,’ however, since nutritional needs were the main developmental delays identified, perhaps

extracting information from that funds of knowledge in a culturally appropriate manner is the means to overcome the needs through beneficial and early interventions that are cohesive with already acquired knowledge, local customs, and/or established habits. There is no doubt that disadvantaged parents in any country are deprived of the necessities for uninterrupted nutritional contributions, hygienic environments and adequate health services for their indigenous children. Researchers have concluded that environmental influences such as ethnic or cultural background, and not genetics, have resulted in significant differences in the health and well being of their infants and children (Delpisheh, et al., 2006; Kelly, et al., 2009; Kelly, et al., 2006; Kelly, et al., 2006b; McMunn, et al., 2008). It may be that these indigenous children are equally helpless regarding the misunderstanding of cultural influences.

Developmental Delay Identification in Mexico.

On a firsthand basis in several interviews, I learned from medical doctors and medical administrators that medical doctors in Mexico were not trained to evaluate students for developmental delays or other special needs. I was in my 'campo' one day when I chanced to meet a local medical doctor: Dr. Lidia Rios Villalpando (real name used by request). Dr. Rios was a visionary who treated the whole person and the community in which they lived; she was a natural teacher who looked carefully at what programs might help the people within the community where she worked. She explained that the government-sanctioned program for early stimulation did not train medical personnel in the recognition of early identification of development delays. This was especially true within rural communities, where less experienced medical personnel

typically work. I felt the doctors' needs for more insight into the identification of developmental delays were an appropriate fit with my formal educational training, my practical background in public and private schools and my current research interests. This level of cooperation between professionals grounded in different fields of expertise, originating from neighboring countries with diverse cultural attributes and significant language challenges required all those present to expand their cultural awareness for the public good. Accepting this challenge was an honor.

Qualitative data describes “causes” for special needs label

As I began my observations and interviews, patterns began to emerge. I noted that the majority of the infants six to eighteen months of age would be described as having developmental delays (missed milestones) while also being described as underweight, non-alert, fearful of being on their stomach, timid (in general), hesitant to reach out for a toy, oddly silent, and lacking in the motivation to scoot or crawl.

Having access to USA standards (published milestones), I will compare those milestones here for lack of access to information on milestones from Mexico. Independent actions, mentioned above, are normally achieved (milestones) by an active child under the age of two years; these are conservative figures since most infants are crawling by eight months and scooting by five or six months. Within the first few weeks of clinic visits, it became clearer to me that what I was observing were sociocultural influences (environmental or behavioral) on the indigenous infant. For example, indigenous infants had no opportunity to learn to crawl since placing them on the floor was not a cultural standard. Another example is that the number of children challenged

with genetic or cognitive disabilities was only slightly more frequent than I had observed in the USA (Table 4.1), however the same missed milestones, mentioned above, reoccurred throughout the entire study. Nutritional problems spiked even higher between eighteen and thirty-six months of age when a new infant might have entered the family and further distracted the caregivers of the toddler (Table 4.0). My quantitative data analysis only revealed part of the mysteries of the culture; it was my qualitative investigations of the raising of indigenous infants that completed my understanding of why those specific milestones would be missed if the child were evaluated under USA standards. The reasons are both complicated and multi-faceted. The following section helps to separate and examine the results I discovered.

Table 4.0

Developmental Delays identified as Nutritional Problems: Percentages of Nutritional Exceptionalities Calculated

n	Age in Months	Nutrition Pro	Total Percent
51	0 -2 months	10	19.6%
138	2 – 6 months	31	22.5%
127	6 – 12 months	45	35.4%
67	12 – 18 months	24	35.8%
47	18 – 24 months	18	38.3%
49	24 – 36 months	19	38.8%
42	36 – 48 months	14	33.3%
44	48 – 60 months	11	25.0%
71	60+ months	30	43.7%
636		200	31.4%

Of the three hundred and thirty-six ‘campesino’ children identified with developmental delays, over half of the delays were the result of malnutrition. Of the total

six hundred and thirty six ‘campesino’ infants, children or youth nearly one of every three were malnourished (31.4%). An average of thirty-one point four percent of the children in this study were listless, expressionless, non-responsive, had glassy-eyed stares, and were clearly underfed, underweight or obese, and lethargic (Table 4.0). These observations were compared to normal development delay milestones to gain an overall impression. Rather inactive infant behavior was added to normal infant behavior expectations which would include not being able to bring hands together by four months, unable to roll over by six months, unable to sit without support by eight months, not crawling by twelve months, and not walking by fifteen months; these are basic guidelines for further investigation, not a specific diagnosis.

Qualitative explanations: socioeconomic, sociocultural, and educational

Within this chapter there are three main categories that I investigated to assist me in answering my research questions and then in analyzing my data:

1. Results of observations and analysis related to the socioeconomic status of indigenous residents within the ‘campo’.
2. Results of observations and analysis related to the sociocultural behavior of indigenous residents within ‘campo’.
3. Results of observations and analysis related to educational attributes and/or resources available to indigenous residents of ‘campo’.

Results of observations and analysis related to the socioeconomic status of indigenous residents within the ‘campo’.

Indigenous subsistence farmers.

This research predominately examined indigenous subsistence farmers. The study was conducted in rural areas surrounding the geographical center of Mexico where the majority of the population had few resources of their own and limited access to outside resources, including assistance from their government. These rural communities of less than 2,500 residents represent almost one fourth of the Mexican population; poverty is common within these rural areas. Limited access to special education or other academic professionals apparently enhanced the eagerness of more informed parents (1) to have assistance identifying developmental delays in infants, children, and youth, especially those under the age of five, (2) to have access to information on how to help their children develop physically, cognitively, and emotionally; (3) to have advice on how to best help children identified with special needs and (4) to gain additional knowledge on various subjects for which they had no access. There were no rural public libraries, no free Internet and no means to gather information within these pueblos for anyone above elementary school age. The less informed parents were often victims of a multitude of disadvantages common among those living within the lowest of socio-economic conditions. These disadvantages included overall basic needs deprivation (Kelly, et al., 2006), alcoholism and depression, poor health, poor nutrition, and increased risk of illness (Poblano, et al., 2002; Poblano, et al., 2006).

Living space holds multigenerational people and animals.

The living conditions of the residents reflected their socioeconomic status. Indigenous ‘campesino’ residents lived in a world where burros, the standard beasts of burden were piled so high with corn stalks that only their hoofs were showing for on-lookers. The women shared a two-room partially completed subsistence home with others, maybe five or six people in each tiny section of the frequently cold, dark, and musty non-insulated concrete blockhouse where the window and door openings are often covered with loosely draped bed sheets instead of tightly fitted conventional wood, metal or glass building products. Too frequently adults faced single parenthood, often three generations of women (a single grandmother, mother and granddaughter), sharing one two-room home. Any child over age three was expected to share what they were able to earn outside the indigenous home. Older siblings stayed to help out the younger ones physically; any five to ten year old was likely the caregiver of toddlers and expected to solve problems, conflicts, and negotiate without adult input. In these communities, caregiving or disciplinary duties of a child within the community are the responsibility of anyone close to the child at the time of need. The oldest members of the indigenous family, the elders, were typically sharing the small home, but they brought in no income or other assets to add to the family resources. Indigenous elders had used all that they had to get their own children raised within the ‘campo.’

Homes are primitive two-room sleeping quarters.

Homes typically consisted of two-rooms and were made of dirt adobe, brick, or concrete block, the floors made of compacted dirt or bare concrete. Houses are literally

sleeping structures. The house was cleaned daily and the concrete floor mopped with very strong disinfectant due to the non-potability of tap/stream water. Outside, the yard was swept with a broom and might be sprinkled with water to keep down the dust. The household needs of cooking, washing, hygiene, and raising domestic animals were all accomplished outdoors using non-potable water. Each insignificantly sized dwelling had an outdoor space set aside for washing dishes or clothing in cold, non-potable water. Any laundry was done by hand outside year round and hung on barbed wire strung across the yard; dishes were washed in the same place in cold water. There might or might not have been an enclosed area designated as a bathroom space and it might or might not have had a flush toilet; it would most often not have a sink. Showers or baths were cold-water hygiene activities that usually occurred outdoors for the entire family.

Housing is also an overwhelming problem. There are 116 houses with an average of four families in each house. Since on average each family has four or more children, statistically we can assume that about 700 people live in only 116 tiny houses. There are no social services homes in this community or a single one of the over 11,000 free homes built by the government in the State of (withheld) in the last eight years. We saw over a dozen of these houses in another town (withheld) the last two days, but this town has none. It appeared that their claims of no help from the city government are valid (Mackenzie, personal journal, January 15, 2009).

Frequently indigenous infants would be labeled developmentally delayed.

Frequently infants had symptoms that by USA standards classified them as

developmentally delayed. Nutritional aids were frequently necessary. Although there is a program ("Oportunidades") to get supplemental formula and protein for pregnant or nursing mothers and children under the age of 5 years, the paperwork is too difficult for most women to fill out appropriately. Paperwork in Mexico often demands numerous letters to prove that rent has been paid, utilities paid to current date, that their home is where the person says their home is located, who the person knows as a reference, and paperwork that cannot be located because it does not exist. A local minister who is an expatriate created the joke "*And a copy of your second-quarter third grade report card is required*" (Mackenzie, personal journal, January 5, 2009) because Mexican officials make it impossible to get authority to do anything without paying a 'mordida' (bribe, tip, fine) to them as individuals (reference Ismael Garcia interview, pg. 42). That fact is very stressful on the 'campesino' with very limited financial resources. These factors explain why nutritional problems were the most common developmental delay problem identified within this study; the indigenous caregiver simply cannot complete the paperwork adequately or pay for their approval. There were other programs to help overcome nutritional shortages, but they also required an application. One program gave one hundred pesos to the parents for each child under the age of five years, about eight dollars a month. In another program, each child under the age of five was given thirty bags of supplemental protein drink, the same thirty bags of supplemental protein drink is allocated to pregnant or nursing mothers. This final program required monthly check-ups in the health clinic for the mothers and the children. For some mothers who did not participate in this program the monthly effort to get to the clinic was more than they could accomplish or more than what they would get in return for their effort.

“Sadly, hungry, depressed (often very young) mothers get pregnant to get additional food or public attention and then cannot meet the paperwork requirements for food, have no money to get special seating for pregnant women on the public buses, and therefore, more malnourished babies are born”

(Mackenzie, personal journal, May 18, 2009).

Indigenous ‘campesino’ mothers are resourceful.

The resourcefulness of the indigenous mother was nothing short of awe-inspiring. Her creative skills were finely tuned by survival efforts. In the ‘campo’ every day was a test of physical, mental and emotional endurance. All too often her absent husband would forget to send money and might stay away for years, but she would still be waiting because that was her fate as the caregiver, the role she assumed when born into the ‘campo.’ If one of her children was born in need of special services little outside administrative help was available to guide her with raising her special needs children (Fletcher, 2007; Fletcher and Artiles, 2005; Fletcher, et al., 2003; Fletcher and Ramos, 1999; Mount-Cors, 2007). Mothers came to expect this lack of resources. A main factor in getting help for special needs children was getting to the facility that might offer some help via public transportation. Often whole communities had no public transportation access or only had access via a near-by community. “Near-by” might defined as an easy walk for a teenage boy, but a mother of five might have an entirely different viewpoint regarding the phrase “Near-by” and her ability to manage the trip with her brood walking or being carried. Therefore, access to transportation was a major factor in determining the economic positioning of an entire community, especially for parents with special

needs children.

A healthy home, with enough food, is a challenge.

The challenge to be healthy and well fed is frequently unsuccessful in the 'campo.' Animals either ran loose all over the dirt yard, or they were tied or hobbled (two legs ties together on a very short rope). Each yard was covered in animal defecation, which most mothers sweep away at least once a day into a near-by pile in the yard. Rural medical personnel verified that in spite of their mother's best efforts, malnutrition was epidemic and most children had acid reflux and intestinal parasites (the curative medicine was expensive). Nutrition problems were suspected to be under-reported in older children with other existing health issues because mothers were found to have forgotten what medical personnel told them when the child was younger. Medical employees often reminded a mother of what supplements might have been given to the children earlier in life. Researchers in Mexico City (Poblano, et al., 2002) found nearly one-third (27.6%) of 778 children examined had some degree of malnutrition, very similar to this study (Table 4.0). Those children lived in the city and would be expected to have better nutritional levels, however that data explained that those children had low socioeconomic levels so there may have been other unknown similarities or differences.

Mothers were home working from early in the morning until late in the evening every day to assure a healthy family. The level of care that was taken to clean the homes was unlike what was seen in other countries, perhaps because the water was not potable. Though great care and caution were taken to keep intestinal parasites out of the food, children were very often sick. Other researchers had found that of the Mexican mothers these "*participants promoted and protected the health of their preschool children by*

taking care ("el cuidado") and by being mindful ("el pendiente") of balancing the health of their infants, children and youth's bodies, minds, and souls" (Gallagher, Gill, and Reifsnider, 2008). I discovered that by understanding this personal cultural outlook, it might be possible to design culturally-sensitive health programs that would reach toward and build on existing maternal strengths. The women would learn if they are personally reached in a culturally appropriate manner that acknowledged the Mexican national treasury (living assets) as the children of Mexico (the future leaders of Mexico). That was an observation consistent with other researchers (Kottack, 2008; Ogbu, 1992b; Rogoff, 2003).

Location of health clinic determines availability for patients.

The physical location of the health clinic within a community appeared to determine access to medical care; many ‘campos’ had no health clinic either near or accessible by public transportation. All patients walked to the clinics; very few clinics were close to a bus routes. If a mother of six had a newborn and another infant who was not yet walking, and the clinic was high above the ‘campo,’ getting there was a major effort for her and her children. A sick child further complicated the obstacles to health care. Oddly enough, most health clinics were located next door to public pre-schools or elementary schools. Difficult access to health clinics also meant difficult access to educational facilities. Caregivers and medical staff informed us that the harder it was to reach a school, the less often the children attended because a parent had to walk the child to the facility every day. In large families, if one of the children was often not feeling

well enough to walk and was too young to be left home in the care of a slightly older sibling, he/she would end up staying home from school.

Historical oppression of indigenous people.

Socioeconomic oppression of the indigenous population is a part of the history of Mexico. All of the ‘campos’ in this study were rich with history, a history of three or four hundred years of oppression. That history led to the oppression that exists today because the behavior of the oppressors was the only available model on which to build their lives (Freire, 1970/1993). Mexican males were taught by their own oppressors to frequently impregnate and beat their wives, rape their daughters, exploit any attractive women by lying to them until the bed-sheets were wrinkled, play music as loudly as possible, and consume massive amounts of beer and tequila. This behavior basically boiled down to “*live for today because tomorrow may never come.*” This pattern of life was likely adopted to help strong, handsome and youthful Mexican men overcome the fear that before long their own bodies would be bent over a cane or buried in the rocky ground beneath their feet. This attitude took hold because the fates have been unkind to those in Mexico who live in the ‘campo,’ placing the ‘campesino’ at the bottom of the social ladder. The attitude appears to be that if tomorrow does come, it will hold out no more hope than was offered today.

Mexican democracy functions with fewer advance notifications.

The Mexican democratic government functions in a manner that is not similar to the United States democratic government. Laws are changed overnight and offices are

forced to change their methods of operation with no forewarning given to either the administration or the public. There appears to be absolutely no margin of error for any mistakes; rework is a term not in their business dictionary. Paperwork was checked repeatedly for errors, apparently due to the fact that the use of computers for information storage was very limited and not trusted. The need for official stamps or seals for the slightest verification of personal information was oppressive to educated people and presented a major if not impossible hurdle to those who were undereducated. In many cases, public assistance such as nutrition to health services was a legal right, but the difficulty of processing the paperwork with verifications and major changes taking place overnight without any warning, made it impossible for most indigenous people to access the services. Mexico has been a society of oppression since the arrival of Hernán Cortes in 1519, until the 20th century, when democracy was finally achieved. A powerful sociological oppression and suspicion toward government has remained as a deeply engrained habit, a habit that is most damaging to the lowest on the social scale.

Escaping poverty is an unfulfilled dream for most people.

Alternatives to overcome abject poverty were lacking for all people in the ‘campo.’ The social roles played by both male and female are demanding, but very different. The man is solely expected to bring money into the family unit, no matter how many people or animals may be sharing the home. The woman is expected to care for her home and her extended family regardless of the number of children she bears or the size of her extended family; she is not expected to work outside the home but she may have a domestic item (food, veggies, handmade items) that she sells very close to home. The

challenge for the male is that minimum wage in Mexico is 46 pesos a day, about \$4 USD or fifty cents an hour, too little to maintain a home. Mexico was ranked ninth of seventy-eight countries where inclusion within the list was determined by totaling the number of people living on less than \$1USD per day (NYT, November 29, 2009). He may have to travel away from home to make enough money to support the home. The woman, if her husband has or has not left the 'campo,' is the caregiver. The bent body of old women attest to the years of bearing and of carrying children while walking inside the 'campo' to get to people she is responsible for assisting. The women are emotionally and physically supportive of each other, but there is never enough resources to go around to all of their needs.

Specific gender roles were prescribed within each 'campo' community and are learned and respected. The children were often more rigid than adults in regard to gender roles, therefore, by puberty gender rules are deeply engrained. Although the men often do literally escape from the 'campo' for at least some period of time to earn a living, they were never able to escape their social position. The men might escape to the USA to find work, but their heritage follows them. Travel to far away places is an expected part of a man's role, but the female is expected to remain in the 'campo' of her birth or that of her husband's family no matter how many years her husband might be absent. However, thousands of men made the annual pilgrimage from jobs in the USA back to Mexico to visit their own mothers or grandmothers during the Christmas holidays even though they risk all (including their lives) to make that extended trip (Mackenzie, personal journal, June 14, 2005). Living on the Arizona/Mexico border from 1996 to 2008 allowed me to see this activity firsthand as up to 400 undocumented aliens a week crossed my land to drink from

my well as they were returning to jobs in the USA that they had left for the holidays. During that trip to Mexico during the holidays, local informants told me that the Mexican men may also visit their wives in Mexico since they are expected to demonstrate their manliness and position in their own family by making sure to procreate during the visit (Mackenzie, personal journal, June 14, 2005).

Outside pressures affect the ‘campo’ a great deal.

Rural Central Mexican citizens are so short of resources that their lives are nearly always intertwined with outside forces. ‘Campesino’s’ face constant challenges of disadvantaged rural residential living in third world conditions that include poor hygiene, few resources, no potable water, limited access to special education services, lack of unemployment insurance, social security disability or retirement services and other hazards of being in the lowest class of citizens. They also face environmental hurdles, both internal and external to the ‘campo’ and places far away. Much of their lives are intertwined with both internal and external cultural, social, political, and religious events because there is “trickle-down” effect within this depressed society. For example, if local sewer lines that feed the ‘campo’ water source break and no political city official orders a repair then illness occurs inside the ‘campo;’ that is a direct internal event influenced through a lack of services from a near-by city. Additionally, when the economy changes where a ‘campesino’ man is working, no matter how far away from the ‘campo,’ money being sent home by him stops; life in the ‘campo’ immediately changes due to an indirect external event causing changes within a distant economy. In both cases, the affect on the ‘campo’ resident is quick and harsh.

Results of observations and analysis related to the sociocultural behavior of indigenous residents within ‘campo’.

Infants are held, adored and entertained for about two years.

Infants were raised with what appeared to be a universal plan of being held and entertained day and night for the first two years. Few children learned to crawl, because they are bound tightly, dressed in multi-layers of clothing, held in someone's arms day and night, and not allowed on the dirt floor. Kingsolver (Rogoff, 2003, p. 103) remarked, “*What I discovered in Spain was a culture that held children to be its meringues and éclairs.*” The same is true in Central Mexico where children are *participants in dynamic cultural communities* (Rogoff, 2003, pgs. 111-112), where they are constantly held and highly cherished. Additionally, while being held if children started to cry their needs were met immediately to make them stop crying. Unlike European American *packaged* babies, Mexican infants often have skin to skin contact with a caregiver, appear to feel more secure, and cry less frequently. Informants have states that this is all a part of a process of developing a *lifetime responsibility to the family of origin*; other researchers have discovered the same phenomena. Such lifetime devotion may be an intended social return on the family’s investment in each child (Rogoff, 2003, pg. 120). This admiration of children is also why so few Mexican children are orphans even though deaths are common. When necessary, family members take in the children, without hesitation, and raise them (Mackenzie, personal journal, August 13, 2009). This has been observed, firsthand, in my campo after a mother’s death, in the fall of 2009, left one orphan. Her uncle and his wife are now raising the girl as their own.

As the infant matures, adult-child interactions are limited.

Children and parents spend little time together and one-on-one discussions were rare. It was common to meet a mother who had never considered verbal or physical interaction with her child in the role of teacher. Infants were entertained, not taught. I learned that names are often not given for sometime, simply "niño or niña" was offered as a first name. The reader is welcomed to speculate as to what this says about adult-child interactions; I am still researching that factor. The situation is different with disabled children; after they reach the age of one year they were frequently left lying on their backs all day with no visual or auditory stimulation.

The indigenous mother's central role is caregiver.

Caring for children, with or without a partner, is the cultural and social expectation for the rural indigenous mother is to be solely committed to accomplishing in her lifetime. Mothers appeared to have clearly defined roles as caregivers of children; very few had work outside the home, drove a car or were involved in any activity other than staying in the home or walking to the home of other relatives and caring for them. This narrow domestic assignment was apparently not a shared responsibility with either the husband or a son, only with a daughter, sister or other female. Data implied that all mothers expected their children to be obedient, but only the females were also expected to be helpful inside the home. Domestic chores required an exceptional amount of time and hard physical labor because the well known "labor saving devices" were not available to these women. Informants expressed that the mother's job was also to keep the entire

family healthy. The women within this study lived outdoors a large percentage of each day: cooking, eating, bathing, washing clothing, caring for domestic livestock, walking to school or neighborhood vendors, socializing in multi-generational settings, worshipping, and interacting informally with peers. The often-jealous Mexican male our female informants stated emphatically meant any activity outside these parameters with suspicion.

Mexican indigenous women rule the home (sometimes).

Mexican indigenous women assumed a position of power within their homes that developed momentum as they aged. They may have been raped at age ten or eleven and had four or more children and an absent husband by the time they were eighteen. If these women lived to become grandmothers, they had generally become very wise. Their survival instinct had kept the bellies of their children full and the natural elements off the bedclothes (rain water, snow or hail). It had fought off reoccurring intestinal parasites, perhaps malaria. This instinct had insured that at least two generations of family members had something clean to cover their bodies. The level of commitment expected by women is shown in the following journal entry:

One mother of fourteen children had been living apart from her husband for twenty-three years. He only visited three times in all those years, but he always sent money. Therefore when he suddenly moved back from the USA to Mexico when he was elderly and could no longer find work in the USA, he entered the home without resistance since her position of power was always socially accepted to be less than her husband's (Mackenzie, personal journal, December 12, 2009).

Privacy in social matters is paramount.

How Mexicans conduct their social lives with friends and family varies a great deal from how they behave in social situations with outsiders. Researchers have applied methods of training people in workshops and expecting performance within the workplace to mirror the workshop experiences. They found that cultural factors interfere with that transfer process (Subedi, 2006). Special education teachers refer to this transfer from the classroom to the home as generalization; something very difficult and with some children almost unattainable if they have severe cognitive disorders. The learning of a task, such as pouring tea from a metal teapot in school was not transferred to a ceramic teapot in their own home because the teaching of 'generalization' of the activity to other objects was not completed by the teacher inside the student's actual home. This same private means of conducting life inside the home as family custom dictates, kept from the public eye, was true in the Mexican home.

Care of the elderly was a social expectation.

Social norms for indigenous adults were that the children were raised to be caregivers of their parents in later life. Apparently, because there is no social security, retirement or other similar program to do that for parents, this was the obvious solution. For this reason it was vital that children be absolutely obedient to parents and grandparents, a trend other researchers have noticed in other Mexican communities. This expectation was reflected in where people lived, whom they married, what employment they accepted, and if they continued their education. As a result their level of interest, ambition or involvement in matters of business or social life outside the immediate community was often negligible.

Mothers expected children to be perfectly behaved.

In the majority of the clinics, mothers reported to Jolene and me that any behavior outside a rigid standard of perfection was unacceptable. They usually expressed an alarming urgency to find a permanent and rapid solution and asked us to provide it for them in some form. Unacceptable behavior reported by caregivers included any issues related to signs and expressions of anger in infants, children, and youth. It was frequently reported that parents expected their children to be quiet, to sit still without distractions (toys, mp3 players, etc.), and to be well behaved and respectful of the family or other authority figures. The parents reported that children were expected to speak softly and infrequently; any other behavioral pattern was cause for grave concern. Interviewees for this study, from all walks of life, stated that the Mexican mother ruled the household, as did previous interviewees in previous studies. Typically, the Mexican mother demanded from her children an unquestioning, absolute respect.

Religion has a powerful influence in the life of indigenous people.

Ritual was woven into most aspects of life inside the 'campo'; as faith had been found to help people overcome adversity and tragedy. The Roman Catholic faith encouraged large families by not allowing the use of birth control and the Mexican government also encouraged reproduction due to its public honoring of pregnant or nursing mothers. On busses seats are designated for pregnant or nursing mothers. Parking spots for vehicles were normally labeled for the disabled around the world, but in Mexico they are also labeled for pregnant or mothers of tiny children. This public

parking permit is expressed in a city near my campo with signs underneath a disability sign showing a silhouette of a pregnant mother or a mother holding an infant and other children following behind her. Often the historical fluctuations in family size and other social network changes were a direct result of governmental policies. Social pressure was also evident; several teachers told me that nursing or being pregnant was the highest form of achievement for a girl. Teachers explained that it was easier to become pregnant and attain a higher social status than to study hard in school and gain nothing socially.

Nothing carries social value like a person's name.

Birthdates were not given great importance, but names had elevated value. Even medical personnel pay little attention to birthdates because the two last names (first the father's name and then the mother's name follow the child's middle name) was the information of value for identifying a person. Other cultural customs, like not giving their children a first name for weeks, months or even their entire childhood, seemed odd to those from the USA where a first and last name must be on a birth certificate within hours of birth, however, this lack of choosing a first name is a variable that is widely accepted within this society. Names consistently appeared to be of great value and are therefore chosen extremely carefully within a family conference months after a child is born but before a religious blessing of that specific child (baptism). Children are given a long string of names; usually five or six. That unique combination makes their very unique and identifies them specifically. This characteristic is beneficial for specific identification, (1) to embarrass someone in the newspaper when arrested or (2) to announce a wedding or other positive event.

I inquired about the date of birth of the two children I had just examined. The medical doctor made every effort to go through lots of files but still was unable to find the birthdates of two of the children within any of her medical records. The doctor said that sometimes even the mother couldn't recall birthdates
(Mackenzie, personal journal, August 24, 2009).

Results of observations and analysis related to educational attributes and/or resources available to indigenous residents of 'campo'.

Teach bilingually and change the economics of Mexico.

I am especially familiar with infants and toddlers of Mexican heritage within an educational setting. I was the director of a preschool and day care on the Arizona-Mexico border, where I lived for twelve years. I also worked along the border as a teacher of special needs. Therefore, I knew that the more I understood within this study about cultural influences (causes) that might mask my understanding of what was actually occurring, the more likely it would be that I could offer some culturally appropriate solutions or ways to overcome consequences: like bilingual Spanish/English instruction in for children and adults in both public and private schools or other institutions. The caregivers must want such services since they frequently ask Jolene and I for classes in English for themselves and their children. While out in the field, I wanted to find a means to ease the burden of developmental delays or special needs for indigenous caregivers. Even though I had a school director background, I lacked information specific to Central Mexico. This was an area far different from the border

regions with which I was familiar. So, I looked at lifestyle factors that might have a bearing on my observation of children or on the interviews of their caregivers.

Indigenous caregivers evaluate education in unexpected ways.

Caregivers did not have the same outlook on educational priorities and school administrations as might be expected by someone with my background. Caregivers were not active within the schools and did not compliment and enhance their children's education for many reasons. The following journal entry explains some of those reasons:

Last Friday I was also able to reconnect with "Chico" (not real name) the head teacher at the (school first name withheld) Primaria and with Dr. Lidia Rios Villalpando (her real name by request) from the Health Department in (city name withheld). I am working on opening the doors to students volunteering at both of those schools. Dr. Lidia Rios and I met at the (school name withheld) Preschool where I have stopped several times. Again, this is another excellent school for UA students to use as a volunteer experience.

Chico again bemoaned the fact that there is such a short supply of teaching tools. Often there is no Internet access, the Smart Board imitations from China are only wall decoration and parents are too intimidated to be involved at the school at any level other than bringing food to the kids. When parents cannot read they stay away from the schools, Chico explained.

Caregivers simply trust that the teachers will make sure the children are taught what they need to know, but with so little to use for teaching it's a nearly

impossible task. His comments mirror those of Jose (not his real name), the 34-year veteran teacher at (school name withheld) just 8 miles away. Jose also explained that feeding the kids is the main goal, so having the child work has real value; school takes a back seat. (Mackenzie, personal journal, November 2, 2008).

This journal entry helps to show factors exist in the ‘campo’ to perpetuate the myth that their child’s education is not of interest to rural parents, it is but feeding the child has priority. Data reports that parents and other caregivers lacked the training and understanding of how to compliment and enhance their child’s educational experiences. They also appear to be easily intimidated by teachers, especially those who exhibit a higher-class status. Researchers in other Latin American countries have found the same results (Romero-Contreras, 2006).

Reading to children was limited.

Many parents could not read and others lacked the time to read. Books were not present in the homes, and they were not considered as tools toward the development of literacy. In general, researchers found what I found: poor literacy rates among Latin American children and a lack of interest in written code (Chapman and Perreira, 2005; Hayes, 1992; Ogbu, 1990, 1992a). Most caregivers were giving directives to children, question-answer format and giving or requesting labels of items (“watch the goats” or “where is the tortilla pan?”), not conventional instructing of children. Rarely did caregivers request more detail, like how long a child watched the goats, where they went for pasture access or how much the goats ate. Children infrequently asked parents to explain something to them. Researchers have found that parents appeared to lack an

understanding of assisting a child with school tasks (Romero-Contreras, 2006); the same findings occurred within this study. Nothing I observed in classroom or homes, related to the education of 'campesino' children, was unique to this part of Mexico compared to what has already been discussed or the findings by other researchers.

Lack of reading skill, expression, and ease makes reading boring.

I found limited verbal acuity in the parents or other relatives, which was often coupled with a lack of reading materials. While reading they often displayed flat expressionless faces. When reading without expression or intonation of any kind being offered to infants, there is little enticement toward learning to socialize. Additionally, infants were offered very little sound or movement to mimic while being read to because reading was such a labored and unnatural an act for the adult.

This style of reading to children might be compared to other academic-related styles in homes. Researchers have studied the mealtime conversations of middle-class Caucasian families outside of Mexico and found that table conversation is a very exacting *school-style way of speaking*, thus allowing practice for public speaking in their classrooms (Rogoff, 2003, p. 303). Researchers have discovered that children hearing a language or style of speaking repeat that style with more ease (Kemper and Royce, 2002). The 'campesino' child's vocabulary development is hampered due to their parents limited academic vocabulary and habitual resistance. The percentage of children from this study having acquired no audible speech or other speech problems from eighteen months to the age of five at 23% was notable (Table 4.4). The normal United States range of speech

problems is two point three percent for girls and four point six percent for boys aged three to seventeen years (National Survey of Infants, children and youth's Health, 2006).

Mothers lacked time to teach their children non-domestic subjects.

Informants explained that there were little or no printed materials in the 'campo' homes. First hand, when there were home visits with medical personnel during this research, the same data was collected (no printed material in the homes). During interviews with caregivers, regarding replies related to reading, we learned that after the age of about twelve, most teens or adults had no access to books. The school libraries I examined would usually have one four foot to five foot long shelf that had accrued books over many years. Not only were books not in the home, and caregivers reading skills likely to be limited, mothers had little time for teaching academics, and lacked access to books or other forms of knowledge because there was no public library system in or near 'campos.' Although older siblings might be able to read, the majority of the caregivers had marginal reading skills because they rarely had the opportunity to practice since secondary school. Data, collected from several 'campo' schoolteachers and medical personnel, indicated that caregivers were intimidated by schoolwork. Therefore, most marginalized ingenious 'campesino' Mexican mothers accepted no responsibility for the job of teaching children anything other than domestic tasks and obedience. Mothers and other caregivers told me in different clinics, often in a defensive manner that in the 'campo' caregivers expected teachers to do the entire job of teaching academic subjects to children; casual interviews with local informants from my 'campo' agreed (Mackenzie, personnel journal, June 27, 2009). This fact was further hampered by the fact

malnutrition and sociocultural disadvantages have been found to increase the clinical characteristics of learning disabilities or other special needs in socioeconomically disadvantaged Mexican children. Mexican researchers working with socioeconomically disadvantaged Mexican children found that undiagnosed learning disabilities were being faced by many of the children, especially those in rural areas. Caregivers are at a big disadvantage when attempting to teach those children. Other researchers have found a high correlation between poverty, low nutritional levels and a lack of academic success (Poblano, et al., 2002).

There exists infrequent talking to children.

Data implied that these children were frequently being raised in a culture in which it is not customary to talk. Informants, both caregivers and medical personnel, remarked that talking was not the most common means of communication, especially in the outlying ‘campos;’ people communicated more through body language. Informants stated that it was expected that conversations were limited, especially adult-child conversations. Limited verbal communication skills with children and reading skills among the caregivers may mean that any attempt at such an interaction will not be satisfactory for either party (Mackenzie, personnel journal, February 21, 2009). Repeating the activity is unlikely, even if teachers or others suggested caregivers try it. Additionally, the child is unlikely to respond to a photo of an object in a book because there had been no generalization instructions or even training regarding such an object inside the home or outside by caregivers or other relatives. The child might be highly timid and look away

because their culture expected them not to look into the eyes of adults. According to informants and our observations when volunteer teaching inside the ‘campos,’ children here normally learn by imitating.

This is another example where cultural expectations have had a direct influence on personal, social, religious, political, and environmental activities and expectations of what was the norm within the ‘campo.’ This is a good example of cultural expectations effecting behavior. If a child does not talk and an assessment specialist perceived that they saw a verbal disability in an infant, child or youth that may be an invalid assessment. What may actually be present are cultural influences or factors that altered what was considered normal talking behavior by the observer for an infant, child or youth of that age.

Social factors highly influence the ability to learn.

The quiet, polite indigenous person, who is living far from a city and normally travels by foot, is unlikely to have the capacity to relate words spoken by a visitor to actions taken within their own home or immediate surroundings; generally things are still perceived through an inherited frame of reference. Data confirmed that ancestor respect often triggers such behavior; as though a new idea insults the way it “has always been done.” Mexican youth who are bicultural are far more able to accept new ideas into their private lives and social circles (Holleran, 2003) and far less likely to respect older ideas from ancestors, but they do not necessarily overcome the influence from inside the ‘campo.’ The fact remained that even those Mexican American immigrants attending school in the United States found that their culture alone influences their inability to learn

(Saracho and Martinez-Hancock, 2004). USA educational service for Mexican American ESL immigrants did not meet their needs. These students performed worse in math, mental health and interpersonal functioning (Crosnoe, 2005).

Mixed methods data describes “consequences” of ‘campesino’ lifestyle.

Observations, interviews and analysis of data implies that several areas have the potential to be consequences more likely to be faced by indigenous people residing in rural ‘campo.’ Malnutrition was the leading concern, both of the children and other family members. Data results indicated many children outside expected developmental ranges in other areas as well (Table 4.0).

When gender was taken into consideration the results of data analysis lacked extraordinary findings, both genders are about equal in malnutrition and in number of students represented as Table 4.1 shows.

Table 4.1

Frequencies by Gender of Children Identified Outside Expected Normal
Developmental Ranges in all Categories: Percentages of Exceptionalities
Identified

Observed	Frequency		Total Percent	
	Male	Female	Male	Female
Nutrition Problems	98	105	31.1%	30.9%
Physical Disabilities	82	74	25.9%	21.9%
Emotional Behavioral	62	76	19.6%	22.5%
Language Problems	47	48	14.8%	14.2%
Severe and Profound	9	15	2.8%	4.4%
Cognitive Disorders	21	28	6.6%	8.3%
Gifted or Talented	4	12	1.3%	3.6%
Total	636	658*		
Individuals with one or more Developmental Delays				56.5%#

*Numerous multiple disabilities in a single child were recorded.

#Percentages based on a value of "one" for each child, even those with multiple exceptionalities.

Six hundred and thirty-six 'campesino' children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. The data presented in this table came from patient history, open-ended comments from caregivers, and caregiver interviews to compile data. Nearly every aspect of the roles I assumed converged on the deprivation everywhere and therefore limited access to educational necessities resulting in the innate necessity to assist those living in rural areas to get special educational services for their children (Forlin et al., in press). Examining the cultural factors effecting 'campesino' children's learning included factors inhibiting

learning, enhancing learning or contributing to allowing learning in ways unlike the Western Education Model (WEM) of listening and literacy.

Malnutrition was at epidemic levels.

The predominate need in the ‘campo’ was for nutritional information and access to better nutritional resources, as demonstrated in Table 4.0 and 4.1. Every clinic doctor I asked about nutritional problems agreed that malnutrition was of epidemic proportions in rural Mexico (Table 4.0). There was an upward trend in nutrition problems birth that began to reduce at age three; this trend is due to another birth and recovery time. Researchers have found similar patterns, particularly within fertile cultures when, after an infant was no longer only breastfed, they ceased to be carried by someone continuously (held all night) and were forced to learn to walk on their own due to their mother expecting another infant. Another hazard suspected for the toddler by researchers was moving out of the parental bed so that the toddler was no longer mimicking parents breathing and perhaps avoiding Sudden Infant Syndrome (Rogoff, 2003). These factors that reduce attention to the infant might be the anomaly evident here because the infant had moved into toddler status and was not being as closely monitored for proper nutritional intake (Kottack, 2008; Ogbu, 1992b; Rogoff, 2003) or other normal functions. Mobile toddlers are more likely to fill up on easily accessible candy and more likely to come to harm on their own. Children may enter school at age three (if a teacher and room is available), which might reduce unawareness of what is being consumed by the toddler. Most ‘campo’ children at our research sites have their pockets filled with inexpensive candy and ate it all day long.

The nutritional comparisons with developing countries may not be as definitive as it appears in Table 4.2. The US Federal Interagency Forum on Child and Family Statistics reported that more than eight out of ten (eighty percent) children had a diet that needed improvement. The report stated that most children lacked fruits and vegetables in their diets and ate too many sweets (Childstats, 2009). The report, like many others, discusses obesity and lack of exercise (Koplan, et al., 2007; Puhl and Latner, 2007), but nothing about obvious malnutrition. This study reported nutritional problems (Table 4.0), with up to thirty-seven percent of children eighteen to twenty-four months of age having obvious, visible signs of malnutrition. These signs included medical histories (reported by parents) of a child being prescribed supplemental nutrition. Additionally, I observed symptoms of physical listlessness, non-responsiveness to people or other surroundings, emotionally flat expressions, and multi-symptoms of fear, suspicion and extreme shyness. Therefore, comparisons with United States government statistics of eighty percent of children needing more fruits and vegetables and less fat does not apply to thirty-one point three percent of children obviously suffering malnutrition.

In 2008, the U.S. Department of Health and Human Services reported that fourteen percent of children in 2005-2006 school year required services for special health care needs (Child Trends Research Center). This study found that twenty-seven to sixty-seven percent of the children observed up to the age of sixty months had one or more exceptionalities (Table 4.1). These percentages are more likely to be a reasonable comparison between the two groups of children.

Poor academic performance.

Rural mothers have little understanding of the written word and little nutritional knowledge; the nutritional program that was designed by the Mexican department of health and was needed was vastly under-utilized by 'campo' mothers and other caregivers. When a child living in an area where he/she drinks Coke in a baby bottle instead of breast milk or formula, there is bound to be some nutritional problems. None of the rural homes had vegetable gardens, and the commercial vegetables were heavily sprayed with chemicals. Sewer lines ran open sewage into the dirt streets and public water supplies; all drinking water is nearly as expensive as commercial soft drinks. Nutritional problems were very widespread in this part of rural Mexico; medical personnel confirmed this epidemic.

Emic Relationship with Informants Increased Cultural Understanding

My interpretations can be validated through an examination of the effort involved in making certain that what I observed, investigated and then analyzed was regarded as culturally accurate. This section further elaborates on the effort put forth to assure that accuracy. In Chapter Three of this study, twenty-four categories of informants were explored in detail to assist the reader in comprehending the extensive range of participants that were interviewed in order to "*gain entry to the setting, or establish rapport with my research participants*" (Maxwell, 1996, pg. 66). I appreciate that Maxwell (1996) points out that this process is a "*complex and changing entity*" (p. 66) not a one-time opening of a door; "*In qualitative studies, the researcher is the instrument of the research, and the research relationship is the means by which the research gets done*" (p. 66). The following field notes illustrate my team's position as learners.

As I drove down the dirt and rock roadway toward town at about 10:00 am I noticed that Tio Pepi's store was closed; immediately I knew that someone had just died. The store is always open during the day unless there was a death. Many people have died here since I moved into this 'campo'; I had learned the traditional signs. I wondered if it was someone I knew, someone I'd given a ride, had taught or bought services from in the past. It was not until the following morning that I learned it was a mother who had sold me vegetables out of her truck, her challenging daughter always along. The young girl was about five years old. In my opinion she was a child with special needs related to Fetal Alcohol Syndrome. Mom agreed that she was a special needs child who was very difficult for her to manage; the child's behavior was unpredictable. Mom said that caring for the girl was a lot of work and there seemed to be no way to teach her to be polite and respectful. It took time on my part, but I was finally able to approach the girl and interact with her during visits to my home.

I had even been to their damp adobe home to give them a warm blanket last winter. It was necessary because the damp dirt home was on the riverbed with evidence that the river took parts of the home at will during the rainy season. No one here had heat in the winter, certainly not that home. Living with dampness and no heat was not healthy so I thought of them when I was asked to distribute forty donated blankets late last cold season.

I had often wondered why the mother and daughter stopped coming by my home. The fall was short of harvest this year due to the drought, but other vendors brought some produce here for sale. I thought that perhaps the father, a man who

was continuously non-functional from alcohol excess night or day, might be keeping them home for some reason. I learned today that a far bigger evil had kept them away: the mother had been a victim of cancer. It was she who had died yesterday. The child was to be raised by my landlord's brother, my next-door neighbor, who already had a two year old with epilepsy and a nine year old who was strong-willed to the point of stressing his normally high level of patience. Every day my neighbors taught me more about life in the 'campo' and what remarkable people they were to find ways to survive what this culture and living inside this' campo,' asks of them (Mackenzie, personal journal, January 9th, 2010).

Though this culture's constant state of change aroused emotions (fear, interest or politeness) that may affect the results of observations, the data indicated that for us to obtain reliable information (a valid study) it was necessary to use an emic approach. Time was required for us to become a trusted part of the community. A total immersion in the culture, so much that I even reported in detail the exhibited behaviors of my own neighbors. Other researchers have had different approaches and outcomes. One example reported researchers stopping all observations of children over the age of nine months because the researchers were said to have "the evil eye" (Rogoff, 2003). Our experience did not reflect any such inference; perhaps this was due to our genuine humility being registered by the participants. Perhaps the community had changed and adapted which could have resulted in the acceptance of our presence among the 'campesinos.' The local medical personnel and the caregiver participants were very cooperative and seemed to welcome our presence. However, any observation was only a view of that community, in that location at that point in time: what *they* were doing then within a sociocultural

content *not* what was done before or after. I believe that “*qualitative research requires extensive time in establishing relationships in any culture*” (Maxwell, 1996; Rogoff, 2003); within the Mexican culture, this factor was amplified due to the *relationship factor* having much more relevance, as the following example illustrates.

In Central Mexico an entire department in the local Volkswagen car dealership shuts down from 3:00 pm to 4:00 pm in order to allow all of the employees to eat their mid-day meal, "comida," together; that willingness to lose money for anyone stopping by in the mid-day in order to accommodate the employees need for a relationship was, for this researcher, a major social statement. I have been told this arrangement is common in all but extremely large cities within Mexico.

Results of Observed Children and Interviewed Caregivers

A total of 665 ‘campesino’ children between the ages of two days and twenty-two years and nine months were observed; of them, twenty-nine had incomplete data on age and are not included in calculations (Table 4.3). Therefore, 636 made up the analyzed sample of observed infants, children or youth. Additionally, their ‘campesino’ caregivers were interviewed because they had visited one of fifteen rural ‘campo’ health departments or three community centers used as temporary clinics overseen by the closest health clinic. These medical facilities served over one hundred small, unincorporated, rural ‘campesino’ communities. The make-up of the participants is shown in the following (Table 4.3).

Table 4.2

Number of Observed 'campesino' Children, Age, and Gender

Number	Age in Months	Males	Females	Percent
51	1=0-2 months	29	22	7.7
138	2=2-6 months	77	61	20.8
127	3=6-12 months	53	74	19.1
67	4=12-18 months	36	31	10.1
47	5=18-24 months	26	21	7.1
49	6=24-36 months	21	28	7.4
42	7=36-48 months	10	32	6.3
44	8=48-60 months	14	30	6.6
72	9=60+ months	35	37	10.8
636	with age data			95.8
29	10=no/age/data	12	9	4.2
Total:				100.0
665	Totals	313	345	
Percentages:		47.1%	50.4%	

Six hundred and sixty-five 'campesino' children between the ages of two days and twenty-one years, nine months were observed and displayed in this table. Twenty-eight, or four point two percent, of the participant's observations and questionnaires were thrown out for missing or illegible birthdates. There were 383 infants, or sixty percent, who were eighteen months of age or younger. Between the age of eighteen months one

day and sixty months there were 133 children or twenty-one percent. There were seventy-two youth or eleven percent over the age of sixty months.

Table 4.3

Parental Interviews or Observations of Language Disorders

#	Age	LangD	Total Percent
51	1-60 days	0	n/a
138	2-6 months	2	1.4%
127	6-12 months	3	2.4%
67	12-18 months	14	20.9%
47	18 – 24 months	17	36.2%
49	24-36 months	17	34.7%
42	36-48 months	7	16.7%
44	48-60 months	13	29.5%
71	over 60 months	22	31.0%
<hr/>			
636		95	14.9%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. Naturally, the pre-verbal children are not our concern in Table 4.4, but the percentages of children from 12 months to 36 months who had problems speaking was surprising. Fortunately, in the summer of 2006, I was able to spend several days working beside a governmental speech and language therapist in Central Mexico, where I was able to observe the areas where children had the most problems. Therefore, I was not surprised to learn that children were teased for not being able to roll their “R’s” correctly, a common sound formation within the Spanish language. Similar to the “th” action in English, certain sounds are basic to individual languages and not mastering them is hard on the children’s self esteem when other children point out the shortcoming. In the above

table the 48 months to over 60 months old students with the most profound disabilities often also had to face the problems of inability to clearly communicate.

Possible cultural differences must be taken into account when attempting to do a quick assessment for possible developmental delays for infants or children in this cultural environment. Additional factors requiring consideration when assessing these children are marked differences in cultural practices, language, and attitudes from one community to the next, even those within close proximity. An example might be a community that commonly substitutes a sound for a Spanish word: like "woof, woof" (both words) for the Spanish word "perro" which means dog. If the entire community uses that unique expression, then the child has to be considered using the correct reference for the animal, just as applying the symbol of "A" to the sound for "a" is how reading is taught and used in society (Keene and Zimmermann, 1997; Mackenzie, 2009).

Table 4.4

Parental Interviews or Observations of Behavioral Concerns

#	Age	EBD	Total Percent
51	1-60 days	5	3.6%
138	2-6 months	16	12.6%
127	6-12 months	25	37.3%
67	12-18 months	24	34.0%
47	18 – 24 months	16	38.3%
49	24-36 months	19	38.8%
42	36-48 months	14	33.3%
44	48-60 months	17	38.6%
71	over 60 months	26	36.6%
636		162	25.5%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and the numbers are displayed in this table. This was the most surprising area of concern by caregivers, because it was so opposite to what was observed. In general, since we have been coming here since 2005, we have found Mexican children in this region to be respectful and cooperative both inside and outside their classrooms. There was only one child observed during this study who clearly exhibited Attention Deficit Hyperactivity Disorder (ADHD) symptoms and only two who were clearly defiant. All the rest of the complaints by caregivers were a total surprise to us. The urgency of caregiver’s requests for me to “fix” any expression that was disrespectful or lacked cooperation really surprised me. One grandmother was horrified that I did not have an immediate solution for her to overcoming her grandson’s manner of speaking to her.

Data reported that parents expect behavioral patterns that include quiet and non-aggressive behavior from children over the age of two years. When children meet those social and cultural norms of being still, quiet, non-assertive, and inactive, that behavior expectation may in fact be masking malnutrition problems (Mackenzie, 2009; Adrian Poblano, et al., 2002; Poblano, et al., 2006). Often parents reported in the data that children are expected to speak softly and infrequently; any other behavioral pattern within this ‘campo’ was not acceptable. Apparently, local, cultural expectation of is that the children care for their parents in later life. Dull, listless, timid children who are clinging to their mothers are considered to be the best behaved of all children while vibrant, curious, talkative, physically active, questioning children seem to impose fear in parents. Further examination revealed that many of the children who caused such strong

negative reactions from their caregivers were children who were not suffering with malnutrition, but in fact had their nutrition needs met (Table 4.4).

A phenomenon was discovered as a result of analyzing the data regarding extreme concerns by caregivers related to children's stated inappropriate behavior. This strong seemingly overreaction by caregivers to behavioral problems implies a that good behavior assures *social security* for elders through respect for elders (Rogoff, 2003, P. 106). There is no social security, retirement or other similar program inside Mexico to do that for parents, and therefore to do that children be absolutely obedient to parents and grandparents (Kagitcibasi, 2002; Ogbu, 1992b; Rogoff, 2003). The data implies that generations of offspring are expected to remain respectful their entire lives, always staying in or near the community to care for aging parents or grandparents (Ogbu, 1992b; Rogoff, 2003). The observed behavior by the two-person team appeared to be normal childhood activities and actions, behavior certainly well within normal ranges by USA standards. The described behavior outside health clinics appeared to be normal childhood activities and actions expressed by a healthy child. With that realization, I looked for validation or rebuttal. I questioned indigenous people who had left the close participation of the 'campo' lifestyle, who had become well educated, bi-lingual, and had socially expanded their class status by frequent trips to the USA both for business and social reasons. In each case I was assured that social security within the 'campos' was assured by raising lots of children to be well behaved and dedicated to caring for their family for a lifetime. Each interviewee further stated that they lost status within their family by moving and focusing on a world outside their 'campo.' Their continued attentiveness to the family's needs did not compensate for the expectation of physical

presence, at all times, to care for elders.

Table 4.5

Parental Interviews or Observations of Physical Disabilities

#	Age	PhyD	Total Percent
51	1-60 days	8	15.7%
138	2-6 months	23	16.7%
127	6-12 months	18	14.2%
67	12-18 months	21	31.3%
47	18 – 24 months	10	21.3%
49	24-36 months	14	28.6%
42	36-48 months	15	35.7%
44	48-60 months	12	27.3%
71	over 60 months	36	50.7%
636		157	24.7%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. The surprising results within this table were the number of children 12 to 18 months with physical disabilities, just under one third. Overall, the percentages are higher than might be observed in a society where the socioeconomic structure dictated that these children were not given all the nutritional, hygienic, medical or educational advantages of a more ideal situation. It is important to note that the children over sixty months of age often came to the clinics because their caregivers knew of my training and experience; they were seeking advice on how to best serve each child’s needs. Children with disabilities are within an environmental situation that offered limited options for their caregivers to obtain knowledge on how to assist their children. Once we were able to make our point

about this gap in the education of mothers who have need of special educational services within Mexico. The following journal entry is a record of the day we went to our regular early stimulation program as guest of three doctors from the city and the department of health:

The trip was quite long and winding; we were glad to have them (administrators of the Department of Salud) take us. There were no towns along the way as mileposts to be sure of not getting lost; it was similar to the trip to (another town name withheld) without the towns and much drier. There was a dry salt lake bed area and some areas of intentional land recovery too. We learned that the whole area was once a lush forest, all sacrificed to mine the silver. Dr. (withheld) showed us where the trees were being replanted to help do some restoration.

We only saw 17 children (a very small day for us); the overall impression was far healthier than many other places we have visited. One girl, 5 years of age, had a brain that did not function on one side and a boy, also 5, has a very difficult time talking, causing him some emotional grief since he is being bullied. I suspect a problem with a 2 month old boy; too lacking of alertness even as a premie. So much of the time I end up applying my knowledge gained from schooling, pastoral counseling, and teaching/raising the nine children I raised (including my own 3 with special needs). Having his knowledge and being able to use it in conjunction with my formal training allows me to have a very strong "gut" feeling about kids. The nurse this time, like all the other places, appreciated any suggestion of what might be a potential area of concern. I work very hard not to overly worry anyone, but to also mention that additional intervention is likely a good idea.

There are many areas where the mothers need additional advice. I need to create aids in Spanish with mostly picture.

Once again, as with the three doctors in the AM, we were told that having a mobile classroom would be a vital asset to Mexican mothers and children. They are all saying, "Yes, please help us to help our people." There are so many, so widely scattered apart and they have so many needs that they are not able to communicate. This is an overwhelming situation that is a fantastic opportunity for us to be of service and make a lasting change to the lives of many children and their mothers, as well as all the visiting teachers, students, and professors. Jolene and I are thrilled to be here. (Mackenzie, personal journal, February 24, 2009).

Jolene and I look forward to many more opportunities to work with Mexican officials. We are confident that with cooperation and team efforts many of the issues we having pointed out will become a part of the history of Mexico, not current events.

Table 4.6

Parental Interviews or Observations of Severe and Profound Disorders

#	Age	SevPro	Total Percent
51	1-60 days	1	2.0%
138	2-6 months	1	.7%
127	6-12 months	0	0.0%
67	12-18 months	2	3.0%
47	18 – 24 months	1	2.1%
49	24-36 months	2	4.1%
42	36-48 months	1	2.4%
44	48-60 months	2	4.5%
71	over 60 months	14	19.7%
<hr/>			
636		24	3.8%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. These figures do not offer any remarkable insight into either socioeconomic or sociocultural differences from other observations. The percentages are modest for most of the age groups, although a little higher than might be anticipated. The following journal was the hardest of all of our visits over fifteen months because the doctor brought me a silent angel, a five year old who had never been to school and never said a word:

We left early for (town name withheld), the closest physical visit yet. It is a town of about 1,000 people past (town name withheld) to the east of us. The town is down in a valley where they harvest trees and make charcoal for an income. The ladies and the medical people said that the state health department and other officials have been very helpful for many years. The mothers say that the doctors and health programs are outstanding. The mothers have had parenting classes

and apply what they have learned. The government supplies baby food and vitamins for the families without problems. All children are checked every two months, and if there are problems found, then they are checked every month thereafter. There is no concern with dehydration or malnourishment. There is a preschool, elementary school, and middle school all with enough room, enough supplies, and lots of qualified teachers, too. There is a bus to take the older kids to (town name withheld) for high school. Bus service is not a problem. Nearly everyone in the town could read, but there is a shortage of books and the women would love to have access to more books.

Although this is still a community with a low socio-economic status in which the men can be very controlling of their wives, there is a home for each family and there is little domestic violence occurring.

We found healthy kids, informed mothers, and enlightened medical staff. We met the superintendent under Dr. Hector Romo and had a great exchange. It was a very easy day; not the stress of need we have observed in the last three visits to more outlying areas.

The only special needs child in the whole town came to see me at the end. She was a five-year-old girl named (Name withheld) (DOB May 3, 2003). As an infant, she could not stand to be physically touched. She screamed when anything or anyone tried to touch her. The medics were unable to examine her for her constant screams and crying. All milestones she passed very late. She did not learn to walk until she was 4 years of age. I held her hands for about 30 minutes as she stood in

front of me. She is silent and nearly devoid of any facial expression. I was told that many months of effort went into getting a tiny smile to sometimes form on her face. The entire time she had tiny movements like she was trying to balance correctly (Mackenzie, personal journals, January 19, 2009).

Table 4.7

Parental Interviews or Observations of Cognitive Problems

#	Age	CogP	Total Percent
51	1-60 days	0	n/a
138	2-6 months	3	1.4%
127	6-12 months	1	2.4%
67	12-18 months	1	20.9%
47	18 – 24 months	2	36.2%
49	24-36 months	2	34.7%
42	36-48 months	5	16.7%
44	48-60 months	10	29.5%
71	over 60 months	25	31.0%
<hr/>			
636		49	7.7%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. Most of the children exhibiting cognitive problems and listed in this table were in another table due to having more than one disability. A clearer picture of the number of children with cognitive problems would be accessible by also looking at severe and profound disabilities (Table 4.7) and physical disabilities (Table 4.6).

Table 4.8

Parental Interviews or Observations of Gifted or Talented

#	Age	Gifted	Total Percent
51	1-60 days	0	2.0%
138	2-6 months	0	.7%
127	6-12 months	0	0.0%
67	12-18 months	1	3.0%
47	18 – 24 months	2	2.1%
49	24-36 months	3	4.1%
42	36-48 months	5	2.4%
44	48-60 months	1	4.5%
71	over 60 months	4	19.7%
636		16	2.5%

Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. Although we did not have culturally appropriate means to evaluate these children for being gifted or talented, the children listed here were outstanding examples of talented children. In each case, the caregiver was both surprised and pleased to have a child who was so mentally, emotionally and/or logically accelerated.

Table 4.9

Parental Interviews or Observations of Within Norms

#	Age	WinNorm	Total Percent
51	1-60 days	39	76.5%
138	2-6 months	91	65.9%
127	6-12 months	70	55.1%
67	12-18 months	20	29.9%
47	18 – 24 months	12	25.5%
49	24-36 months	13	26.5%
42	36-48 months	13	31.%
44	48-60 months	15	34.1%
71	over 60 months	6	8.5%
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636		279	43.87%
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Six hundred and thirty-six ‘campesino’ children between the ages of two days and twenty-one years and nine months were observed and displayed in this table. This table was compiled so that it was possible to realistically see the percentages of children who fell within norms in all areas of observations or caregiver interviews. Once again, the evidence shows that about the time another child is likely to be born into the family (twelve months to thirty-six months) is when there appears to be more problems with the older toddler. That assumption was made by ignoring the forty-eight months and older, who were more likely to have been brought to the clinic “early stimulation” program because they had known physical, mental, emotional and/or educational challenges.

Distance Makes a Difference.

Taking into account differences in communities may explain the exceptionality differences found in children. Characteristics of each unique rural site were important factors; they are summarized in eighteen tables (Appendix D). As other researchers have discovered before me, the more rural the location of the 'campo' the fewer services accessible for the 'campesinos' (Ogbu, 1992b; Poblano, et al., 2002; Post, 2001; Rogoff, 2003). The following table lists the eighteen sites (Appendix D) with a classification A, B, C, or D to differentiate the distance from a major city. The designation of "A" means the clinic or community center was within a mile or two of the outlying borders of a major city, "B" was within five to eight miles the outlying borders of a major city, "C" was within fifteen miles the outlying borders of a major city, and "D," was more than fifteen miles from the outlying borders of a major city. It should be noted that Miner's Haven was not near a major city and would be normally classified as a "D" except that it was located near a world-known religious monument on a highly-traveled road, which brought the community access to tourist spending, similar to the financial wealth created within a city. Therefore,

Miner's Haven was classified as "B" to reflect that financial influence and create a table that better reflected the characteristics of each site for more accurate comparisons.

Table 4.10

Locations of Sites and Numbers/Percentages of Exceptionalities Identified

Distance	'campo'	Exp.	#Assessed	Exceptionalities: %
A	16=Trayville	18	56	32%
A	12=Puddle	33	91	36%
C	1 =Air Plains	7	17	41%
B	13=Saddleland	8	18	44%
B	9=Miner's Haven	25	51	49%
A	10=Marvinsville	4	8	50%
C	8=Last Retreat	26	48	54%
B	4=Canyon	20	33	61%
B	17=Yatten	10	16	63%
D	18=Zorro	10	16	63%
D	14=Sunjumper	53	81	65%
D	7=Gallup	23	35	66%
D	5=Channel	4	6	67%
D	6=Ebony	15	21	71%
D	3=Cozmos	29	40	73%
D	11=Nightshades	52	71	73%
D	15=Stayrose	14	19	74%
D	2=Creekside	9	9	100%

All 665 'campesino' infants, children, or youth, along with their parents, were Mexican nationals characterized by living in rural areas (sixteen community health clinics or community centers) or semi-rural settings (two health clinics). As outlined, we visited several of the 'campo' clinics multiple times, only recording the same child once. The youngest mother interviewed was estimated to be fifteen years of age; her mother stated that she was raising the baby. Several of the primary caregivers present were grandmothers or great-grandmothers; only a handful of fathers ever attended, and only one father was present without a mother or other relative. Although it was not a question on the questionnaire, the older caregiver usually acknowledged her role. I was told only twice that the mother was absent from the class due to employment or attending school; usually the explanation by an older caregiver was that the young mother was incapable of caring for the infant or child due to being unable to overcome excessive use of illegal drug and/or alcohol. Several medics interviewed also mentioned problems in the 'campo' with illegal drugs and excessive alcohol use. Additional local problems mentioned were instances of incest and spousal abuse. We learned later from a graduate student who accompanied a 'campesino' mother to a doctor's appointment in a rural health clinic that the medical doctors are typically from a higher social class than the 'campesino' patients; as a result, the lifestyle of the 'campesino' patients was seen as barbaric, therefore, in general, little respect was paid to the 'campesino' patients. It is likely that 'campesino' patients had to consider long and hard how much to trust Jolene and I because we represented educated adults. Usually, pleasing any authority figure is attempted by indigenous women and men, however, based on my training as a minister and given the number of women who confided in us, it appeared that the women were

more honest than might otherwise be expected.

Conclusions from caregiver interviews

The defined categories defined from the caregiver questionnaire were divided into the nine age groups. These groups were further sub-divided where because the youngest participant was pre-verbal, for example, at different stages of development than an older participant would have many questions related to verbal communication. Each age group not only considers stages of development or areas that may be problematic, but also offers information related to cultural differences. When individuals trained to assess using USA standards evaluate a 'campesino' child by asking seemingly unbiased questions, they may, in fact be wording the results due to their cultural ignorance as the outsider researcher-learner. This is why which assessment is a difficult decision to make; appropriate, tested, and unbiased materials are very hard to find. By steeping myself in the culture, I discovered that both parties (myself and the caregivers) held their own culturally-influenced expectations regarding the roles of caregiver and teacher. Often, USA standards suggested that mothers teach certain skills, while the 'campesino' caregivers expected teachers to do any teaching outside their mother's domestic subjects or ranch chores. This study found that, as a group, 'campesino' mothers did not understand the concept that they are the primary teachers both socially and academically of their children from birth onward for their entire lives. Unless a mother is teaching at an early age, there is little reason for a child to expect their mother to be a teacher at a later date.

Numerous tables in Appendix F further break down observations and interviews results. It is of value to note that a third or more of the caregiver's whose children were from 1 to 2 years of age when asked the question "Is your child angrier than others of the same age?" answered, "Yes." The final question was open-ended and frequently meant with requests to solve issues having to do with a lack of cooperation, anger, or hyperactivity, predominately anger and other emotional behavioral disorders reported by caregivers (Appendix F; Table 4.6). Caregivers often explained that 'campesino' children are expected to be respectful, quiet, and well behaved; any deviation from that standard gave cause for concern. Parents of Mexican origin children defined the ideal behavior of children by using the term "buenos hijos" (good sons and daughters). These "good" children are said to be "considerate, obedient, and appreciative of their parents' efforts" (Valdés, 1996). Auerbach (Auerbach, 2006) stated that "buen educado" (well educated) meant the person was respectful of those in authority. As a former public school teacher in several districts, it has been my experience, and that of my peers, that the concern of 'campesino' parents is that *their* child be respectful. When attending parent teacher conferences, respect was the primary concern of Mexican parents, not academics or sports. This study pointed out similar caregiver concerns that any behavior deviating from respectful patterns was seen to be highly distressing.

Summary

Culture-considerate results and their analysis may make it easier to understand why I think sociocultural influences create nutritional problems that are epidemic, mothers who appear to not to accept the role as teachers of their children (with respect to academic) and why disrespectful behavior was of grave concern to all family members

(Figure 4.0). Data suggests that these consequences are not insurmountable. This job of encouraging mothers to be pro-active in childcare and education, within a “*developing*” *country* (Ruiz, 1992), often forces a cultural disparity between school and communities (Romero-Contreras, 2006). This disparity is not unlike the cultural disparity between current Western-style approach to education and community acceptance of special needs students within public schools (Fletcher and Artiles, 2005; Fletcher, et al., 2003; Fletcher and Martinez de Ramos, 2005). Also like comparing traditional cultural approaches to raising children (Kelly, et al., 2006; Ogbu, 1992b; Rogoff, 2003) with physical, mental or emotional challenges entirely within the home and most significantly, out of public view (Fletcher, 1999).

CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

“I told stories I thought had nothing to do with me and yet they managed to teach me something about myself that I needed to know” (Behar, 2003, p. 17).

This study was conceived to initiate unbiased *observations and interviews*, in order to

(a) determine if developmental delays or special needs were present in indigenous children living in ‘campos,’ and identify them,

(b) what educational services were available to indigenous families of children having developmental delays or special needs and

(c) how caregivers were coping.

Children were analyzed for developmental delays using both quantitative and qualitative analysis from observations of them and interviews with their caregivers. *Caregiver’s were analyzed* (qualitatively) specifically on how they coped

(1) with children having developmental delays or special needs,

(2) with the lack of educational services available for children with or without disabilities, and

(3) with other social and psychological (sociocultural) influences affecting their lives as caregivers residing in the ‘campo.’

Data was analyzed

(a) to determine the outcomes (identify exceptionalities) of the observation or interview questions asked,

- (b) to report what was learned in the process, and
- (c) to present what information could be applied to practical situations in rural Mexican communities.

This research began because of a sincere desire to know why ‘campesino’ children of ingenious Mexican heritage find academic success elusive, especially for those children with special needs. Pre-research observations confirmed that caregivers of the Mexican students I taught in the USA were doing all they were capable of doing to help their children develop normally and gain an education. Clearly, everyone (teachers, parents, and administrators) felt confused and overwhelmed by legal requirements/restrictions in the USA in regard to children (the majority are Mexican immigrants) with ESL issues and/or special needs. Individual Mexican immigrant student academic outcomes left teachers, parents, and administrators disappointed and perplexed. From within the USA public school system, I felt confused and overwhelmed. I am an educator trained in special education, not an indigenous Mexican mother with limited understanding of the English language and restricted means to understand required public school paperwork for ESL or special needs children. If educators like me are often frustrated, how could a migrated Mexican ‘campo’ caregiver not be? This research report was intended to help explain (and possibly identify a means to overcome) some disappointing statistics regarding academic success in the USA by finding some answers on how to assist caregivers of Mexican children regardless of where they reside.

In designing this research, I was committed to finding a culturally-appropriate assessment tool. When I discovered the linguistic shortcomings in available tools, a self-designed tool was modified and utilized. That tool was created during the time that I was

director of a school with 120 preschool and kindergarten aged students, (supervisor of thirteen Mexican national employees), and enrolled in the University of Arizona doctoral program for early child development. During that time I was working with several state-sponsored groups to develop and create standards appropriate for indentifying developmental delays in order to build desperately needed early intervention programs. Additionally, I was practically and academically identifying developmental delays in local preschool and school-aged children. These factors within my background make the aforementioned tool more likely to be appropriate. Also, my background helps to establish this research as necessary and urgent.

The original research goal was to create an action plan under participatory action research (PAR). PAR is a research approach that focuses on empowering those who are generally unheard (Fine, 1992). Such an approach would better assure sustainability of any plan put into place as a result of study outcomes. However, the nature of this project did not allow for participants to create and implement an action plan (Herr and Anderson, 2005) because repeated contact with caregivers was not possible. Mixed methods were more appropriate to research circumstances such as limited access to/limited visits at health clinics in remote Mexican ‘campos.’ Due to these limitations, this study necessitated and enhanced by preexisting relationships (Appendix B). Those preexisting relationships included five years of extended visits to the geographic area where the research took place, in addition to past experiences while living on the Arizona/Mexico border for twelve years. The collection of qualitative stories (Appendix B and pgs. 107-126) help the reader to more clearly understand conclusions summarized in this study. Each preexisting relationship contributed to the two-person team’s Mexican cultural

understanding.

This chapter restates research problems and methodology for this research. The challenge during this study has been to ask "why" until a category of findings was saturated (Strauss and Corbin, 1998). Major sections of this chapter have highlight and summarize results found by team researchers. Additionally, this chapter also contains a discussion of the implications for additional research and actions toward positive change as suggested by the study's overall conclusions and recommendations for educational practice; conclusions are based on the study's data analysis.

Statement of the Problem

Cultural influences or culturally-based factors common to indigenous children were compared to symptoms/behavior milestones of definitive standards taught in universities and used by schools in the USA to *label* children as developmentally delayed or as having special needs. USA assessment standards were analyzed to see if the criteria may be inaccurate for identifying the special educational needs of Mexican children (Artiles and Trent, 1994; Fletcher, 1999). Data from this study implied that cultural influences or culturally-based factors contributed to an incorrect assessment of indigenous children due to biased assessment standards, a lack of cultural sensitivity training for the observer/evaluators and/or rigid testing materials written in a foreign language. This is a considerable problem because the misunderstanding of cultural influences or other culturally-based factors may reduce the likelihood of attaining academic success (Cattley, 1980; Lopez, 2009; Ogbu, 1992a; Ream, 2005; Rogoff, 2003; Tapia, 1998); the opposite may be true if cultural influences and/or biases are comprehended.

Academic success is not the only consideration of this study. When a rural indigenous child is given a *label* of having developmental delays or special educational needs, the classification in and of itself is a considerable problem. The stigma of a *label* defining a child as having a disability may cause:

- (1) disbelief and resistance, especially by Mexican fathers, to acknowledging having bore a child with disabilities; often resulting in a refusal to advocate for the child, or
- (2) a lowered self-image for the child which may make social acceptance or acquiring a good education less likely, and
- (3) increased emotional stress for the family due to an existing shortage of special educational services, with or without an official diagnosis and/or a label, and also due to the resulting time and resources necessary to care for the child.

This study sought to determine if these children are frequently be victims of misunderstood sociocultural factors/environmental influences, all of which could be academically enhanced with appropriate interventions. If a 'campo' lifestyle is approached as a deficit, culturally-appropriate academic enhancements or interventions might be overlooked. Qualitative data implies that in order to evaluate children accurately, assessment standards must be appropriate to cultural norms. Quantitative data suggests nutritional interventions would be appropriate. Assessment standards may show evidence of the observer's/evaluator's a lack of cultural sensitivity training and/or culturally inappropriate testing materials written rigidly in a foreign language. In that case, recommendations resulting from using such a tool and/or observers/evaluators with those characteristics would be inappropriate.

Research Question One

Are predominately indigenous infants, children or youths* living in rural Central Mexico ‘campo’ more likely to be labeled developmentally delayed or as having special needs when evaluated by a researcher educated and trained in the USA? Will assessments of Mexican children by a researcher educated and trained in the USA be more likely to ignore the funds of knowledge (Gonzalez, Moll and Amanti, 2005) acquired within rural cultural communities? Might these researchers misunderstand cultural influences or other culturally-based factors?

Data resulting from this study appears to demonstrate that if symptoms or behaviors are *labeled* using standard USA criteria, a high percentage of these indigenous children would be classified as developmentally delayed or as having special needs. Data implies that too frequently a *label* of developmental delay or special needs is the result of cultural influences or culturally-based factors. An inappropriate disability *label* may be the environmental result of living in poverty and lacking medical or social service assistances. Most of the *labels* of developmental delays or special needs were the direct result of lack of resources available to meet basic human needs. Infants are being born with malnutrition as a result of generations of inadequate nutritional intake. Mothers continue to be malnourished due to a lack of access to knowledge of how to overcome nutritional problems. Early intervention for the children, combined with caregiver and an increase in economic options for fathers, may be just the changes needed to overcome symptoms of malnutrition.

At the onset of this study, I was predisposed to expect that I would be identifying developmental delays which the mothers or other caregivers did not know existed; I was

wrong. The data implied that the majority of the mothers or other caregivers knew what their children were facing, but what the caregivers seemed to lack was the knowledge that those challenges related directly or indirectly to nutritional problems or other environmental causes. The data appeared to point out that caregivers not only lacked information on how to meet the nutritional needs of their children, but also what health and nutritional needs their own bodies required (Table. 4.0). Also, caregivers were found to have a lack of knowledge of how to support themselves, their children, and other relatives without spousal or other financial assistance. Data implied that they needed to find a way to get special education services (or any educational services) in remote areas (Table 4.10), how to solve their communal multi-generational state of poverty and how to help their children overcome anger and be more respectful (Table 4.4). Data found the children did have more developmental delays and special needs identified than would be expected when evaluated by an individual normally assessing children within the USA (Tables 4.1); this is mainly due to malnutrition (Table 4.0).

Data gathered showed that the current generation of mothers (predominately Roman Catholic), who participated in this study, were more likely to have eight or fewer births; their grandmothers often had fourteen or more. In one village, within five miles of ours, Jolene and I met a boy who was in fourth grade. That boy was one of twenty-one children; his classmate was one of twenty-eight. The second boy needed care due to blindness in one eye, but his parents were too poor and too overwhelmed to help the young man. This helpless situation was common in the ‘campos,’ where either no social services were available from the government to help a child or the caregiver lacked the

ability to either fill out the paperwork or contact the right office in order to secure any federal administrative assistance.

We found from our visits to clinics within ‘campos’ that young and older women alike reported looking for any emotional, social or educational help they could find to solve domestic (child care and self-improvement options), social (access to financial assistance/career options or informational services) and educational (access to knowledge) concerns. Less than five asked for a direct financial gift; the vast majority was desperately seeking self-improvement options. They were often in what appeared to be a position of *generational hopelessness* (Freire, 1970/1993) as a result of cultural influences (predominately due to rigid gender roles) and social class structure (Saracho and Martinez-Hancock, 2004). Having no social security or retirement provisions appeared to cause the women to expect absolute obedience from their children in order to instill the belief that caring for elderly parents was absolutely paramount (Kagitcibasi, 2002). Data implied that the social status of a father and husband leaving a mother and a child appeared to be secure. However, not caring for an elderly parent created social upheaval. The overall impression during this study and my background research was that behavior and respect of elders was of more value than any other personality attribute (Delgado-Gaitan, 1993; Valdés, 1996). The data in this study found that mothers could accept physical and mental disabilities as fate but could not accept behavior outside normal expectations such as hyperactivity or signs of disobedience (Table 4.4).

Research Question Two

Are predominately indigenous infants, children, and youth* who are living in ‘campos,’ educationally marginalized because of their position of being in the lowest socio-economic tier?

The data suggests that ‘campesino’ children are educationally marginalized because of their cultural status, a situation resulting in lack of appropriate nutrition (Table 4.0) and limited (sometimes non-existent) access to available social welfare resources such as information/Internet technologies and educational training programs for caregiver and child. The data confirmed that the ‘campesino’ caregiver raises children within a multi-generational, non-competitive, and interdependent format. This process occurs predominately outdoors, where the very young mimic the activities of the adults and take on adult roles and responsibilities at an extremely early age. It was not uncommon to see a ‘campesino’ toddler about the age of three tending a herd of goats or controlling a one thousand pound horse. By the age of seven or eight, ‘campesino’ children are drive vehicles by themselves within the ‘campos.’ There are few behaviors among ‘campesino’ youth that mirror what might be found in the high schools in more developed countries because by age ten or twelve a ‘campesino’ youth would be spending their days behaving exactly like a ‘campesino’ adult behaves: working long hours in a strenuous manner. It is not out-of-the-ordinary to see ‘campesino’ youth plowing fields with mules, moving feed with burros or performing domestic activities with ease acquired from experience; (including caring for several slightly younger siblings without adult supervision). Worldwide, three to five year old indigenous

children worldwide *largely care for themselves* (Rogoff, 2003, p. 132) and often at least one younger sibling too. The following journal entry is a typical situation in the ‘campo:’

The young girl was about seven years old and had an infant propped on her hip as she walked down the dirt road; a toddler of about three years followed behind her. I stopped to ask if she needed a ride, but she declined saying her grandmother lived only a short distance further down the road (Mackenzie, personal journal, December 4, 2009).

Polite ‘campesinos’ usually accepted rides only if the distance was great. The children who act as caregivers act are characteristically mature due to their experiences. This situation provides a stark contrast to the following quote that appears to have been written in reference to the over-indulged teenager or young adult living in the USA, a child who has no social relationship to ‘campesino’ youth living in Central Mexico.

"We have the most prolonged adolescence in the history of mankind. There is no other society that requires so many years to pass before people are grown up ... Adolescence is nurtured and prolonged by educational processes and by industry that has found a bonanza in embracing the adolescent population and fortifying 'adolescent values.' This prolongation of adolescence robs the country of the population group (currently the "Millennial Generation") having the most risk takers, and the highest ideals." Ralph Nader, Speech at Harvard Law School, Feb. 26, 1972.

Class status influences on the abilities of students.

The cultural factors, sometimes referred to as environmental factors, which have

influenced the activities engaged in by the parents or other caregivers in this study have been explained in Chapter 4 (pags. 104-126). Influences appear to have resulted in the majority of the *labels* of developmental delay (Table 4.0) that were identified within the study. In most cases, caregivers knew about the exceptionalities identified within the study (Tables 4.2 - 4.9), although several caregivers chose to ignore developmental delays or special needs. Those caregivers explained that options for special needs services were inaccessible anyway. On two occasions, a caregiver did not believe me, or the medical doctor, with regard to explaining that a simple patch was a cure for lazy eye. Data implied that accumulated hopelessness might be the reason behind that disbelief and more notably, the reason for the occurrence of emotional breakdowns when caregivers were asked the final open-ended question. Several mothers asked for ways out of the demands required by their 'campesino' lifestyle.

In many cases, a simple observation would confirm that a child had developmental delays, special needs or other disadvantage. Some parents hid the facts from me, others asked for advice. From the data gathered, evidence implied that some reoccurring developmental delays, like being very late to talk or the inability to crawl appeared to be directly related to cultural influences. In general, 'campesino' parents spoke very little and said even less to their children. There was little encouragement toward children to speak and not much need since children mimicked what they observed instead of asking questions or expecting to be verbally directed by a mentor; also, hand signals were very effective and an expected/accepted form of communication between mentor and child (Vasquez, Pease-Alvarez and Shannon, 1994). Dirt floors (a recorded trend in housing), make clothing hard to keep clean, so mothers would rather hold the children to prevent

soiled garments. Carrying the child was also preferred due to the floors being covered with germs, rodents, or insects. Caregivers stated that infants are rarely put down on the floor or in another place where there is an opportunity to learn to crawl. Therefore, most indigenous infants did not learn this skill.

Other developmental delays, such as not knowing how to count by age forty-eight months, or not knowing the names of colors or names of animals, were shown by the data to be directly related to cultural influences. Caregivers explained that these skills were academic subjects to be taught (at least in the minds of their caregivers) by teachers, not by caregivers. Rural Central Mexican mothers explained to Jolene, the gatekeeper-translator, on several occasions that the role of the mother was that of caregiver. The role of public school teachers was teaching reading, writing, arithmetic, and other subjects not taught by the mother. The data implied that, within the ‘campos,’ teaching roles did not overlap. Unfortunately, this fact eliminated the opportunity for children to practice school subjects in their home under the supervision of a caregiver.

Class status influences on education.

An individual in the United States, in general, is able to access education and raise his personal social status significantly. Data gathered from a variety of people, professionals and farmers alike, showed that education was not a significant aid in elevating class status in Mexico. The following journal entry explains why research question two, related to educational challenges, has such significance. ‘Campesino’ children apparently were locked into their socio-economic status for life. Their use of language revealed this socio-economic status (Vasquez, Pease-Alvarez and Shannon,

1994).

Even if they attained the highest of educational degrees and professorship positions in universities, it would be their children or grandchildren who would benefit from the eventual status change. That will occur, if, and only if they continued to maintain that level of education themselves. Additionally, they must move into a higher social status residential location (for their home) in addition to gaining the additional education for themselves and their children (Mackenzie, personal journal, September 13, 2008).

The lack of opportunity to raise one's social status resulted in generational hopelessness due to cultural influences and socio-economic class structure in Mexico or in the United States (Crosnoe, 2005; Saracho and Martinez-Hancock, 2004). On several occasions, a youthful parent told me that education was of great value. It was believed later generations would be helped by education, but the level of commitment required to obtain that education, caregivers explained, always seemed to take second place below family gatherings, rituals or other family obligations (Delgado-Gaitan, 1993; Mackenzie, 2008, field notes; Valdés, 1996).

Most rural residents of Central Mexico, who are adults over the age of fifty, were not taught to read as children. In twenty-four months of living in the 'campo,' I observed only one person over fifty reading a book at home: the family Bible. I once saw a man about thirty-five reading a book while standing outside as he waited for his bus to arrive; he was an attorney. Sadly, even school children were not seen carrying books or reading books. A conventional statement might refer to these non-readers as illiterate, but that word is only used in consideration for one's aptness for reading a language. As Moll

(1992) has reported, literacy has a much broader meaning. Each multigenerational person is very likely to have *community literacy or cultural literacy*, stemming from the funds of knowledge gained *reading* their ‘campo’ and its norms (Moll, 1992). Of the younger adults under the age of twenty-five, most stated that those in the ‘campo’ usually only attended primary school until grade five or six. Data implied that the dreams of the children in the ‘campo’ have more to do with an income for survival and less to do with careers as the following journal entry points out:

The majority of young teenage boys of public school age stated that all they wanted was to go to the United States for work; work that was manual labor. More young teenage girls applied themselves to reading and classroom studies. The girls exhibited behaviors that made it clear that they understood education as a pathway out of lifelong poverty and mandatory motherhood (Mackenzie, personal journal, August 15, 2008).

When asked, caregivers and students replied that they had no access to a library or the Internet for information.

In the same manner that we traveled great distances by car to reach rural ‘campos,’ most teachers traveled great distances by bus from an urban home to reach a school in the ‘campos.’ We were informed that this fact could result in lack of consistent attendance by teachers, and there were no substitute teachers available to take over the duties. Children functioned alone in the classroom when the teacher was absent. The urban teacher was a person of status; the rural child was a ‘campesino.’ We observed firsthand that the children did not command much respect from their teachers.

Data confirmed that everyone knew the lines separating social class.

Outsiders only had to hear the differences in language use (Vasquez, Pease-Alvarez and Shannon, 1994). After a while living in the 'campo,' the subtle body language differences became also evident. There does not seem to be an awareness that with an education what frequently is also taught by the teacher is a sophistication level that includes clearer speech and another level of body language more adapt to working in government offices or other professional positions which often assure higher incomes. Rural 'campesino' mothers complained that the teachers did a poor job teaching, however whatever is taught should then be practiced to be in fact permanently learned (Beck, 2004). At home in the 'campo' parents did not typically practice correcting children to speak more clearly, nor was correcting body language for subtle messages and evening lesson from parents. Instead, teachers complained that the mothers made students work so hard doing ranch chores after school (necessary for family survival) that assigning homework was useless. Further investigation revealed that teachers in public preschools worked only three hours a day and in the later grades, only four hours. At each end of the workday, the school employees made a mad dash to catch a public bus. Additional time to prepare lesson plans was unnecessary due to the federal standardized curriculum that dictated the same lesson to be taught on a given day to all students across the country. Few teachers bothered to set aside time for parent-teacher conferences because parents would not come. There was no after-school tutoring, as students were needed at home to help with the farming or other chores. Adults and children alike appeared to not realize the value of learning lessons unrelated to 'campo' life. Ultimately, even though they

wanted their children to find success in life, they also wanted children to remain in the ‘campo.’ That conflict was a daily sociocultural struggle (Ogbu, 1992b; Rogoff, 2003).

Teachers in rural Mexican classrooms could not be expected to shoulder the entire blame for children who do not learn. Often, there were forty preschool students and only one adult teacher in the classroom. Although I have visited sixteen local schools since 2005, there were no teachers’ aides ever seen or mentioned. Within the primary grades, forty or more students to one teacher in one classroom were common; eighty or ninety to one teacher occurred frequently. Teachers were frequently called away from the classroom and the children were left alone, due to a lack of additional staff available to assist and oversee the children. In some communities, an entire grade level was not taught for an entire school year, or more, because there was no classroom available and/or no teacher hired. These factors explain the following statement as being appropriate for a researcher to consider when examining people even within the same state or geographical area:

"The difficulties experienced by immigrant students indicate that cross-cultural differences in cognition are most probably related to learning practices characteristic of different culture(s).....These differences can be observed not only between cultures but also within a given culture." (Kozulin, 1998).

Data confirmed that teachers were overwhelmed with the number of students, the lack of teacher's assistants or parental volunteers, their lack of training in how to work with students who have special needs and the lack of teaching supplies or adequate reference materials. Additional complications occurred due to teacher's lack of familiarity with the

local culture. Teachers normally resided in a higher status community (Saracho and Martinez-Hancock, 2004).

Thousands of Mexican parents have risked their lives to give their children the opportunity to sit in public school classrooms in the USA. However, few Mexican children show the same determination with academics after they arrive in that formally coveted position. The determination of the parents, regarding finding a means to make the best educational options possible for their children, appears not to become an inherited family trait in the children (Valencia, 2002). Educators continue to ask why this situation is repeated. This research data uncovered some answers for reducing parental heartache through alternative learning techniques that employ nothing more than a tolerance and understanding of Mexican cultural norms such as caring, support, advice and respect among children (Delgado-Gaitan, 1993; Monzo and Rueda, 2001). The following journal entries elaborate on what a difference in a student's attitude toward an education an understanding teacher can make:

Suggestions are nothing more than practical ideas about how to initiate a positive trend in academic success (Mackenzie, 2008 field notes) as researcher Santamaria (2009) also acknowledged.

Santamaria (2009) stated that Mexican students in one study "*stayed in school because of strong ties to caring and understanding teachers*" and suggested, "*due to the high dropout rates in Mexican secondary schools, affectivity must not be overlooked as a means to retain students*" (2009, p. 114).

The data taught me that *“in the Mexican culture, when a person is dressed poorly it means that poorly dressed person does not respect the other people with whom they are interacting”* (Mackenzie, personal journal, December 5, 2009).

That data helped me to understand why my attention to my overall dress and physical appearance inside my public school classroom had such a strong effect on my Mexican students and their parents. That data should be of value to teachers of a diverse culture, especially Mexicans. Too frequently, teachers assume that all cultures are the same inside a classroom and nothing could be further from the truth as the following journal entry explains:

Public schooling was available for all ages and all abilities in Mexico, but the data showed that it was not free and often physically or financially inaccessible. Parents are held responsible for covering the costs of daily transportation, meals, uniforms and school supplies (Mackenzie, personal journal, June 13, 2009).

Data repeatedly verified that this shortage of financial support resulted in the oppression of rural females, a fact that justifies why question two of this study was even asked. Indigenous rural children, for their lifetime in Mexico, are kept financially oppressed (Post, 2001) and their educational needs ignored (Poblano, et al., 2002). The result of not having access to knowledge might have driven women of all ages come to hear anything I said while assessing their children. Data revealed that the women appeared to crave knowledge. Any academic or practical trajectory offering knowledge would be an opportunity to both assist marginalized females and create self-sufficient adult female role models for other women in local Mexico communities. Frequently females in rural Mexico lack of opportunity to achieve school success (Post, 2001) This

situation occurs because they lack the correct social class, parents may be working often so much that there was no time to be involved, there are no after school programs and the future they see for themselves does not require school success.

Review of the Methodology

This investigation was begun with the idea that it was only the preliminary step to finding answers; my wish was to evaluate theories: *"As an analyst, we want to build a creative, grounded, and dense theory...and (finally), generate the free flow of ideas"* (Strauss and Corbin, 1998, p. 99). My complex web of reasoning was to find a *systematic action plan* that provided an academic framework consisting of several theories in order to make certain that the questions asked in this paper were accurately answered and reported clearly within an academic framework. This would then serve as a foundation a solid foundation for my continued research. Strauss and Corbin remind us that *"The purpose of our analysis is to build theory....We want to move from the specific to the more general"* (1998, p. 88). For example, on the matter of crawling by infants, I had to look at numerous details and ask many informants before that single activity's omission from the 'campo' culture made sense. The use of a theory offers the researcher a guide. This can make the journey like a hike that uses a trail map. I used several theories in my study, with Feminist Theory being the predominate one, because I wanted to keep concern for women's and children's rights foremost in mind while I researched and during my reporting of the findings.

Though language can be a great asset (Vasquez, Pease-Alvarez and Shannon, 1994), I regarded the lack of language as an asset for my emic research. While Jolene focused on hearing, translating, and recording what was said, I focused on what was

going on around me. Like a blind person, because I was unable to understand the context of conversations, I instead focused on using my other senses, especially vision (Mitchell and Maslin, 2007) to my advantage. I was acutely aware of body language; I looked for subtle clues defining class status or other distinctions. I compared the use of hand movements or other hand signals. I was fascinated by the differences in the enunciation of words: "Were words spoken in a crisp and clean manner or were they run together or swallowed?" I asked myself as I watched those talking to Jolene. Due to my extensive hearing loss, my experience reading lips told me a great deal about their use of language (Vasquez, Pease-Alvarez and Shannon, 1994). Like the 'campesinos,' I was an observer, utilizing all my available survival skills to get my work done.

Summary of the Results

This study was conducted using mixed methods. Both quantitative and qualitative methods were utilized to analyze data. This data was compiled by a team consisting of a researcher and translator; the study was also influenced by two completed research projects in which the members of my team assumed both roles previously mentioned. An "insider participant" (emic) approach was facilitated by the team for this research project and primary study. The interviews were conducted in remote areas of Central Mexico where an indigenous majority was the norm, a majority categorized as having low socioeconomic status. This aspect of data gathering was compiled using a rubric and was predominately quantitative. Each child was observed and had a physical examination while the researcher took subjective notes. To further inform this observation, the personal caregiver was also interviewed and the translator recorded their replies.

Additionally, my team qualitatively examined sociocultural factors by interviewing Mexicans living in diverse communities and across social class lines to determine if the behavior observed in remote health clinics, various rural communities or in the city was understood correctly by researchers from outside the culture. By analyzing qualitative data of personal journal notes taken from casual interviews the team learned that definitive *labels* that segregate a child as having a “disability” might cause emotional harm to the child, a harm that will not be offset by special educational services from the government. In Mexico, a child does not need to be labeled to get special educational government-funded social services; however, almost no publically funded help is available, especially in remote areas. This aspect of data gathering was predominately qualitative.

The team examined 665 children for developmental delays or special needs. Data was compiled from keywords in observation notes, personal interview replies or open-ended statements by caregivers. Jolene or I recorded what exceptionalities existed. The combined mixed methods data included the following seven areas and keywords:

- Nutrition Problems – observed or reported malnutrition, exceptionalities: thin, pale, lethargic, gazed look, dull, inactive, unresponsive to known or unknown people/toys/surroundings, expressions of fear, timidity, or silence.
- Physical Disabilities – obvious physical exceptionalities
- Emotional Behavioral – observed or reported emotional exceptionalities
- Language Problems - observed or reported verbal exceptionalities
- Severe and Profound – obvious physical or cognitive exceptionalities
- Cognitive Disorders - observed or reported cognitive exceptionalities

- Gifted or Talented – observed or reported talents, insights, or engagement outside normal ranges compared to peers, siblings, and/or other children

The subjective quantitative data implied that over half of those observed children had exceptionalities. Nearly a third of the children's exceptionalities were directly related to nutritional problems (Table 4.0) or other environmental influences; the effects of low socioeconomic status in Mexico (Poblano, Borja, Elias, Garcia-Pedroza, and Arias, 2002). Nutritional problems or other environmental influences are likely to respond positively to interventions that elevate nutritional levels, and therefore overcome delays or other disabilities that were found; healthy children are better learners. This change may occur due to an increase in physical and cognitive abilities because the child's growing body is being adequately nourished. Data suggested that the most remarkable finding was the caregivers' existing knowledge of a health or educational problem and their unified inability to help themselves or the children. The team found a lack of conceptual thinking by caregivers to link unwanted behavior and other symptoms to nutritional problems; this finding appears to be directly related to the caregiver's lack of information, which is a symptomatic problem that would likely respond to intervention. The data implies that caregivers have an apparent need to access knowledge regarding nutrition and other self-help solutions.

Interpretation of the findings.

This data suggests the most important aspects of this study, after finding answers to the research questions, were (1) the discovery of social class-segregation affecting academic success among children raised in Central Mexico 'campos,' (2) personal

confirmation that the education of mothers or other caregivers was the obvious solution for positive change within entire countries (Todd, 2005), (perhaps even others that have characteristics similar to Mexico) and (3) the realization that the primary detrimental environmental factors hampering educational excellence were (a) the lack of good nutritional practices and (b) the “*labeling*” of children related to their assumed disabilities (a necessity in the USA but may be an emotionally detrimental factor in Mexico). Using my rubric, I found that an unusually high number of ‘campesino’ infants, children, and youths to be suffering from malnutrition (31.3%) or other developmental delays (56.5%) primarily caused by the environment. The data suggests that although the caregivers knew their children faced challenges, they did not identify them as nutritional problems; therefore, the hidden diseases found by my team were likely due to unmet nutritional needs. The inability of the mothers or other caregivers to see this as a disease that was due to the sociocultural desire for quiet, submissive, respectful children (qualities the data reported as parallel to those of malnourished children). This desire taught children to obey their elders, which led the children to support them as they decline in the ability to support themselves physically or financially. These adults assumed their children’s behavior was “obedient” and not symptomatic of malnutrition. This is likely due to the caregiver’s lack of access to medical or nutritional information for comparison with their children’s behavior. ‘Campesino’ women and other caregivers, due to their social status, are not able to access libraries or Internet services. These caregivers are deprived of obtaining the knowledge necessary to improve the physical or emotional aspects of themselves and their family’s lives. These aspects

include: hygiene, nutrition, domestic violence or other abuses, and educational and/or economic setbacks.

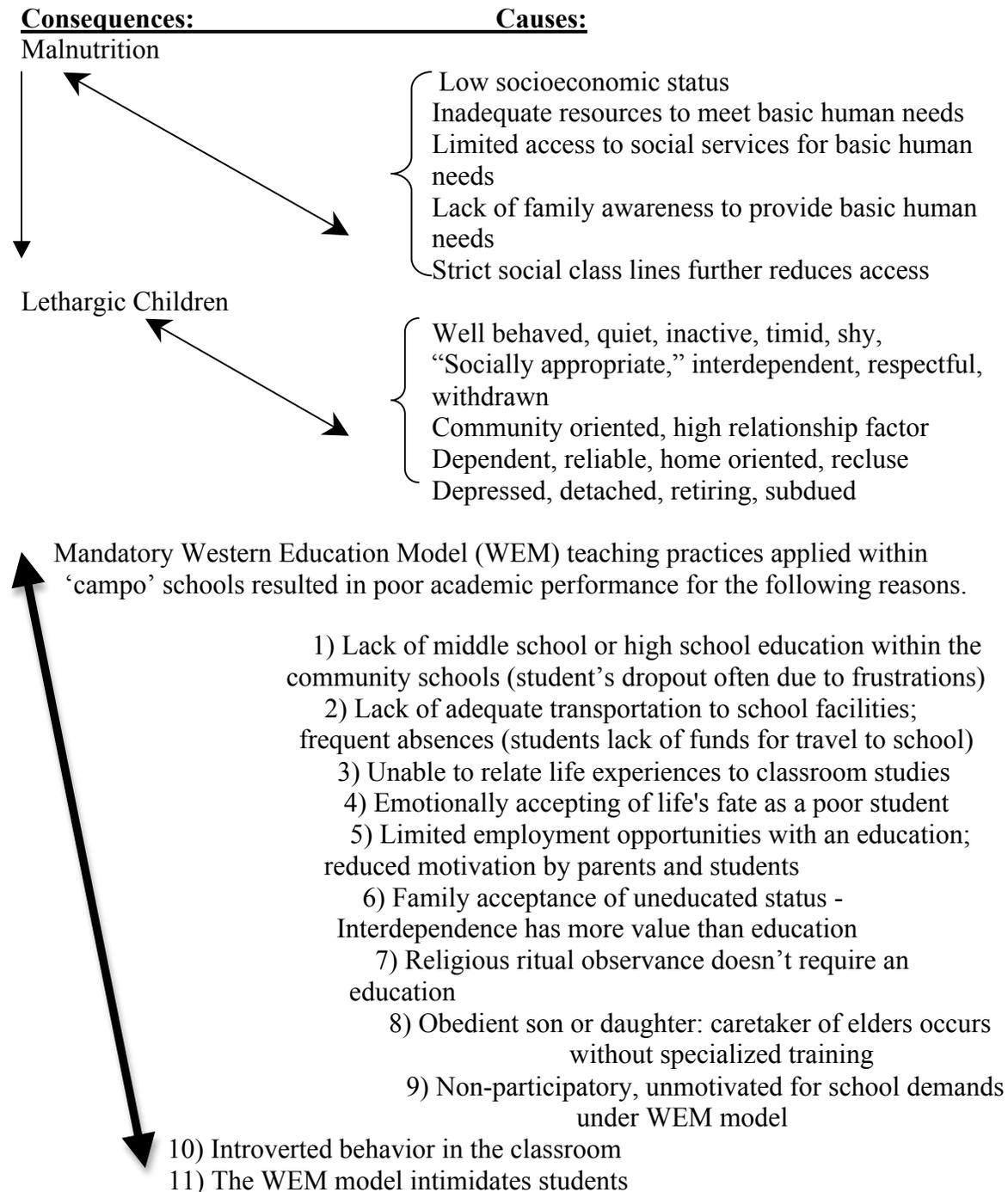
The ‘campesino’ diagram of educational challenges.

The data implied that in Central Mexico most children lack adequate nutrition necessary for meeting basic physical, mental, and emotional needs. Unhygienic environments are characteristic of this region and the shortage of adequate health services and the caregivers’ lack of access to basic health information makes it difficult to achieve positive change. Most caregivers require instruction in gathering information regarding (1) nutritional needs of their families, (2) the skills needed to support themselves and their children without spousal or other financial assistance, (3) the knowledge of how to obtain access to special education services or any educational services at all, (4) the solution to their communal multi-generational state of poverty, and (5) how to help their children overcome anger and be more respectful. These results imply that families inside the ‘campos’ lack what is necessary to meet basic human needs for adequate growth and development. This implication also extends to their inability to learn within normal patterns of instruction; hungry children struggle to focus.

Data appears to suggest that to overcome these challenges, the mothers need continuous access to more information regarding basic parenting skills, literacy development, professional career development, health and nutritional sciences, women's health, economics, business, and domestic agriculture. What mothers would learn and pass on to tomorrow's leaders of Mexico would change the physical, economic and social status of the ‘campos.’

The following diagram (Figure 5.0) was created as a simple means to explain the data. The findings are related to a possible explanation as to why so many children with nutritional problems go untreated when supplements are available from the Mexican government. The diagram has two sides. The items grouped on the right-hand side are the *conditions*. The items grouped on the left-hand side are the *consequences*. The position taken by this study was that a *condition* corresponds to the environmental factors observed to be a result of being a Mexican in the social position of an indigenous person residing in a 'campo' (a 'campesino'). Both how the 'compassion' reacted to the outside world and how the outside world reacted to the 'compassion' were *consequences*. Rogoff (2003) states that participants must keep in mind that groups are vulnerable to adaptation and change over time. The observations here, in 2009, in these 18 'campos,' are not necessarily universal.

Figure 5.0 Data Implied Causes of Developmental Delays and Academic Challenges



There is a mismatch between WEM curriculum and the ‘campo’ lifestyle.

This study examined the mismatch that existed between what resources were available to indigenous ‘campesino’ children and what resources were simply out of reach. An additional mismatch exists between caregiver’s aspirations for their children’s education and those higher social class teachers who assist children with learning, literacy, and language tasks (Romero-Contreras, 2006). Topics of learning and learning styles often differed considerably depending on the setting, whether it be school or home. (Jimenez, 2000; Ogbu, 1992a; Portes, 1999; Rogoff, 2003; Romero-Contreras, 2006; Tapia, 1998). At home children learning by observing and imitating, at school they needed to acquire technical skills, something they could not practice at home. Therefore, ‘campesino’ students do not acquire technical skills they need "*to fulfill responsibilities in future employment*" (Arenas, 2008) because the rural schools have few technical resources and there is no opportunity to practice either. This study was conceived to define how to begin to correct some of these inequalities; to suggest some means for empowering those indigenous residents of the ‘campo’ (Chapter 5) and getting them the teachers, resources, and instructional time they need.

Relationship of the current study to previous research.

Although an educational crisis among Mexican immigrant students exists in the USA (Fry, 2009; Lopez, 2009; National Center for Education Statistics, 2001), which demands immediate solutions, not much has been done to find answers. Inside the USA, mandatory cultural diversity training for public school teachers has caused angry comments and protests for several years (NEA, 2006). The student population has

become more culturally diverse in the USA, with Mexicans being the largest segment of that diversity (Jimenez, Moll, Rodriguez-Brown and Barrera, 1999). However, few researchers have ventured into Mexico to find answers to the educational questions raised by this diverse learning environment (Mackenzie, 2007; 2008). Research in Mexico is limited to areas of health (CRN, n.d.), climate (CIPEC, 1999) or marketing (TNS, n.d.); not education. This research approach was the direct result of living on the Arizona Mexico border for twelve years, doing research on that border (Mackenzie, 2007) and researching within a Central Mexican city (Mackenzie, 2008) before venturing into the ‘campos’ where most immigrants into the USA originate (Jimenez, Moll, Rodriguez-Brown and Barrera, 1999). Researchers examining for *learning disabilities* within Mexico (Mexico Child Link, 1993; Poblano, Borja, Elias, Garcia-Pedroza, and Arias, 2002) have been nearly non-existent, since Mexico does not acknowledge that category of special needs/disabilities. Most studies outside Mexico was deficit studies where the advantages of an industrial Western culture are compared to alleged deficits reported within developing non-Western cultures (Feliciano, 2005; Pandilla and Gonzalez, 2001; Vernez and Abrahamse, 1996). We were seeking to be a part of a participatory study *where learning from rural Mexicans* was the goal, not comparisons within a deficit model.

Teach Response to Intervention and help every child.

At my border school, we applied Response to Intervention (RTI) techniques (Hale, 2008) to all children. My processing within that RTI framework might be appropriate in Central Mexico. Regardless if a specific learning disability was located or

not, all children (and their caregivers) might benefit from such a broad approach because it reaches every learning level without requiring a diagnosis of a problem. However, I felt that first, not being from the culture, I had to identify what I observed and determine the actual meaning of the activity and hopefully evidence-based research behind it. That is why the emic perspective was the most logical for this study. I had an opportunity to observe behaviors repeatedly and ask questions of many different people over a long period of time in order to discover the actual meaning of the activity.

Insight has come from recalling historical successes with Mexican children.

I reached back into my past experiences for insight. In my USA classroom filled with public middle school students having special needs who were of Mexican heritage, I used logic to promote communication and understanding. I spoke of simple mathematics. The students never seemed to tire of hearing me say that *“Until the percentage of Mexico heritage leaders in positions of political power and financial influence equals the percentage of Mexico heritage people living within the entire USA population, a mismatch exists; a wrong that is in dire need of correction.”* Acknowledging that a wrong exists was not culturally inappropriate; it was instead the first step toward positive change. Positive change could be equality regarding basic human needs, which are often unfulfilled in the ‘campo.’ This logic in service of change was my students’ favorite story; however, they accepted my proposal as a fantasy having already become all too aware of their social status.

Implications for educators.

The ‘campesino’ infant was often in the care of a three to five year old, bound in

fabric, wedged into a bed for safety and staring at the ceiling while the rest of the family was engaged in domestic or income-producing activities. Seven days a week the ‘campesino’ child is up and engaged from dawn to dusk. Children are completing activities that required quietly watching and mimicking adult income-producing or domestic activities within a multi-generational, non-competitive, and interdependent educational process with caregivers. Additional caregivers are typically other parents, uncles, aunts, or members of their extended families. Nearly every activity was a family activity *with little in the adult world hidden from small children...night-time does not involve segregation from social life* (Rogoff, 2003, p. 133). For a brief period of the mid-morning or early afternoon, the child or youth might be sent to public school to copy endless streams of printed material or fill-in-the-blanks of various worksheets, an education vastly lacking in creative expression or instructional activities preparing them for adult life (Mackenzie, 2009; Rogoff, 2003). When children are not able to work beside adults and accomplish something, they are *missing a valuable arrangement that can contribute both to children’s learning and their satisfaction* (Rogoff, 2003, p. 139). The children I observed in ‘campo’ schools, for most of the school day, were copying text, an activity that lacked learning, a sense of personal accomplishment/satisfaction.

Educators of ‘campesino’ students would benefit from understanding life within the ‘campo.’ They could emphasize what can be done to make it the most sustainable, most economically worthwhile and healthiest lifestyle on the globe. The ‘campesino’ child could be eagerly entering the adult world prepared and informed regarding how to live a sustainable lifestyle within the ‘campo.’ ‘Campesino’ children could be educated within the classroom and the family in preparation for a lifestyle which was ecologically

wholesome and spiritually, morally, ethically, and economically balanced; a model for the rest of their modern resource-depleted world to follow. The 'campesino' child could be "*connecting hand, mind, and community (through) vocational education for social and environmental renewal*" (Arenas, 2008) instead of copying text for countless hours or filling-in-the-blanks on an endless supply of worksheets.

Life-long malnutrition adds to the difficulties faced when an indigenous 'campesino' child attends school to gain an education. This can be overcome with an adequate diet. Mexican federal efforts to elevate and develop uniform educational standards nationally have resulted in severe restrictions regarding what and how teachers present academic material. The daily curriculum is written in stone, but federal programs fail to provide or recognize the importance of food. Throughout the entire country of Mexico, because of the rigid curriculum, no time/space was left for thematic activities related to local surroundings or adult income-producing activities, and, as a result, almost no nutritional information related to 'campesino' life is currently provided. Extensive and colorfully designed educational material, which has very little correlation to 'campesino' life, was provided without an *academic bridge* to assist the teachers in relating it to life in the 'campos' or to overcoming malnutrition in their bodies. This was an unfortunate example that one academic curriculum program cannot span across the best academic interests of all students who reside within the enormous land-mass, known as Mexico. Such a deeply engrained and multileveled social class system as Mexico - ignoring the basic human needs for adequate nutrition, however, is not an option.

By totally ignoring a *deficit hypothesis* (Vasquez, Pease-Alvarez and Shannon, 1994) approach to life and instead focusing attention *within each public school classroom*

on the vast benefits existing within the ‘campos,’ for a better life through self-help gardening or other appropriate to ‘campesino’ home-life activities outside the classroom. The current nutritional shortages could be vastly reduced or perhaps totally eliminated. Data implies that ‘campesino’ children are educationally marginalized because of their cultural status; other researchers have had the same results. *"There is ample evidence that children from these social class backgrounds are limited by their schooling, by the nature of the instruction that they receive"* (Jimenez, Moll, Rodriguez-Brown and Barrera, 1999, p. 223-224). We teachers need to *"accept different ways of knowing"* (hooks, 1994, p. 41) and apply that premise within our overall pedagogy. Immigrant Mexican students in the USA’s public schools face the same mismatch between home and classroom when they spend the entire school day with teachers keeping them seated in a position promoting *"passivity of knowledge getting"* (Bruner, 1977). This is further amplified by their experience being spoken to in a language they do not understand, in a multicultural setting (hooks, 1994, p. 41) that *"devalued their background and knowledge"* (Jimenez, Moll, Rodriguez-Brown and Barrera, 1999, p. 218). This system unrealistically expects them to learn outside of the well-established lifetime learning pattern of observation and mimicking, a pattern acquired by the children in order to accomplish adult-like tasks within the ‘campo.

Suggestions for additional research.

In rural Mexico, marginalized infants, children, and youth, particularly females, are living in low-socio-economic areas (Post, 2001); the focus of even the youngest members of the ‘campo’ family becomes overwhelming concern with family finances.

Teachers reported "*All the boys dream of leaving and going to America and all the girls know it,*" (Mackenzie, 2008 field notes "La Pozas"). These children deserve to have sound nutrition and their caregivers deserve access to knowledge. The data implies that an early intervention program is a very valuable program in which children receive academic assistance and caregivers receive nutritional knowledge. Additional research would be valuable in determining if specific communities would welcome an early intervention program and if it could become sustainable. A comparative study examining children's academic success with and without personal disability *labels* would also have additional merit.

Implications/Conclusions

'Campesino' Mexican females must be the first focus of attention for intervention programs if positive changes are to be corrected at the cultural level. When indigenous mothers have the access to information and knowledge their children will flourish. This research found that the 'campesino' mother or other caregiver were survivors: creative, innovative, curious, adaptive forces who kept the effects of nature out of the family's shelter, cleaned everyone's clothing and provided "something" filling on the table at mealtime. She was not able to be an academic teacher due to sociocultural reasons and because she lacked time, energy, and experience. Some research models proven effective with Anglo-Europeans have been found not to be useful for Hispanics, including those requiring parental assistance with schoolwork. In the Latin American school system, children may either repeat the grade or drop out should they not understand the lessons (Romero-Contreras, 2006).

The following graph (Figure 5.0) displays the factors needed to have positive school performance. 'Campesino' children had a shortage of all factors. Parents wanted respectful children, but they lacked the time, experience, and cultural traditions for excessive parental involvement in schooling. The *generational hopelessness* that exists within the 'campo' and non-merit based society eliminates thoughts of an education's ability to create a positive future for 'campesino' children. The social class of the 'campesino' child (which places them on the bottom of social networking opportunities and socioeconomic advantages) results in them having the least number of opportunities compared to upper class Mexican children (Post, 2001). Finally, there were no after school programs tutoring or other education program in the 'campo' due to a drought of educational resources and teachers who do not live in the 'campo' and leave on the bus as soon as the school day has ended (Mackenzie, personal journal, June 13, 2008). Teachers are paid too little to buy after school supplies for the classrooms, and because they use public transportation, they run to catch a bus after school instead of tutoring students or creating after school programs.

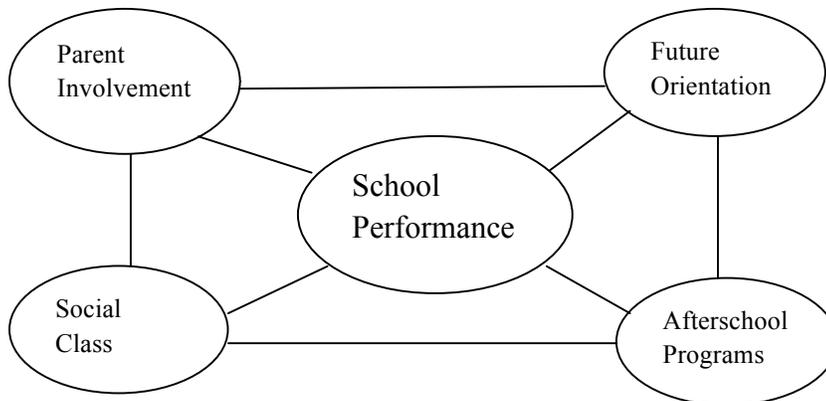


Figure 5.1 *Description of "school success" factors*

(Schensul, Schensul, and LeCompte, 1999) reprinted by written permission

The lack of school success for females and the cultural expectation of motherhood following middle school are both problematic. Examining the causality of mothers' abandonment of children leads to an area in need of additional research: gender bias and the single mother's "lowered status," resulting from a perceived lack of self-sufficiency. Researcher Post (2001) has identified female children as marginalized due to a lack of effective social welfare programs in Mexico that encourage single mothers to become independent heads of household. The problematic marginalization of single mothers in Mexico has been personally verified after (1) living for twelve years on the Douglas, Arizona and Agua Prieta, Sonora, Mexico, border; (2) working in schools with Mexican women, many of whom were single, (3) spending five summers in Mexico during Study Abroad programs and (4) visiting a Central Mexico Catholic priest who was caring for nearly 300 orphans without any help from governmental social services. Additionally,

the work of other researchers has come to my attention. For example, in the summer of 2007, a University of Arizona graduate, who was a volunteer for abused women in Central Mexico elaborated on the present levels of abuse toward women in that Mexican state. Her multi-year efforts to help women included working with a local non-profit to bring positive changes into the local community. The organization was a bilingual women's organization that additionally affirmed that abuse toward women is a harsh, constant problem in Central Mexico.

Limitations of the Study

The focus of this research was the greater rural areas around only one major city in one state within Central Mexico, a state with a small percentage of indigenous people who do not speak Spanish. Other Mexican states, located further south, would offer a researcher more indigenous people and a larger selection of participants who primarily speak an indigenous language, not Spanish speakers. Such a research project might have a more clearly defined number of native language speakers and definitive areas of health issues that need to be addressed. This type of research could be accomplished by using medical records to gather specific numbers (illness, health status, other) and medical diagnosis to reinforce or disprove observations and interviews.

Mexico is a very large country with many variations; this study is a limited view. Secondly, the researcher was a limited second language learner who was of a different cultural background and was not raised in Mexico; that factor had to be considered because "*language sets the stage for inclusion and exclusion*," (Baez, 2002, pg. 125).

Contemplating reliability, a factor to consider is that I, as the primary researcher, had preexisting life experiences, including maturity (many life and educational

experiences) when I conducted this study. I was a compassionate teacher of special needs Mexican students in public schools in the United States. I had a history of volunteering as a teacher on the Arizona-Mexico border and in Central Mexico. Mexico is a country where the relationship factor is paramount and those positive experiences in my background must be weighted appropriately when looking at my report. I balanced my reflections with caregiver interview replies as data where I had no effect. My qualitative data is factual information compiled using my thirty-year background of business-style detachment as a self-reflective means to make the study as accurate as possible.

There were mechanical, academic, social, and personal challenges to completing this study. Mechanical challenges included unreliable electric utility service, obtaining Internet access, no hardwire phone access, and no access to software and hardware repairs. Academically, it was difficult to be isolated from an English-speaking university and other graduate students. Social challenges existed due to three white European adults, the two person team and a supportive husband/brother, moving into an all-Mexican rural 'campo'; gaining trust within the local community was a significant obstacle. Personal challenges included: (1) the actual move into rural Mexico; (2) different currency, measurements, holidays, time zone, lifestyles, food, social services, as well as additional social, physical, and environmental changes. (3) The study conducted in a foreign culture (that we often did not understand); (4) and a translator was necessary. (5) Learning a new language also provided challenges (Saracho and Martinez-Hancock, 2004). A new project would provide additional time together with experience to my knowledge base. This and might offer more extensive information for a future study.

Epilogue

I came to accept "*that the ethnographic self is the outcome of complex negotiations*" (Coffey, 1990: 36). Living among those whose culture I did not know but was eager to understand, I learned as much about myself in Central Mexico as I did about the people I was researching. Living and studying without clear communication, basic interpersonal communicative skills (BICS) or cognitive academic language proficiency (CALP)(Cummins, 1979, 1999) was depressing, frustrating, and stressful on my self-image. Interchanges, especially at first, were often unsuccessful. Obviously, immigrant Mexican children had similar experiences in social and academic settings outside Mexico. Without being able to access the language of my surroundings, I felt socially incompetent, physically vulnerable, cognitively inept, emotionally withdrawn, and driven to seek spiritual comfort. I began to see in my behavior and emotions a reflection of what immigrant students must experience when in foreign classrooms without access to the foreign language. My experiences have driven me to identify many more factors contributing to identifying why that only half of Mexican immigrant children graduate from high schools in the United States and why they struggle in lower grades along the way. Data from this study has provided solutions to what can be done to help improve those statistics from the time of a birth to early adulthood inside a 'campo.' With positive efforts the proportion of Mexican-born leaders, in the United States, may one day be relatively equal to the number of Mexican-born (or second generation) people residing in the United States. If that were a fact today, the 'campo' child or adult would likely not feel so much hopelessness.

The data revealed that adequate nutrition is not being provided for about a third of

these children who live in remote areas. Data implied that the cultural drive for obedient children appeared to hide pervasive nutritional problems; this situation must be modified to allow all children access to adequate nutritional intake. Nutrition problems caused apathy, listlessness, non-responsiveness, lack of focus, and/or acceptance of place in life, lack of fight or flight responses, frequent illness, and other common signs of malnourishment repeatedly observed by this research team. Unfortunately, symptoms, such as those of an undiagnosed illness, were routinely seen as good behavior by the parents. The majority of the caregivers realized that the children were lacking proper nutrition, through the connection to behavior was not apparent to the caregivers. Data identified additional needs inside their Mexican classrooms and homes. Many children lacked sanitary living conditions, good hygiene, and prenatal medical monitoring. Gender bias was observed in that marriage outside the immediate family gene pool and marriage after the woman was physically mature was not a major priority for change. The need for lifetime educational advantages that would have allowed most children to develop adequately, and blossom into self-sufficient adults was a glaring gap in typical expectations. With basic human needs fulfilled there would be an enhanced opportunity to overcome the majority of the developmental delays observed. That fact was certainly positive. These results mirrored previous researchers who have concluded that ethnic or cultural influences, not genetics, have resulted in significant differences in the health and well being of indigenous children (Delpisheh, Kelly, Rizwan and Brabin, 2006; Kelly, Panico, Bartley, Marmot, Nazroo, and Sacker, 2009; Kelly, Sacker, Schoon and Nazroo, 2006).

Most of 2009 was spent observing children and interviewing caregivers in order

to gather the primary data in this study. Pre-study observation and casual interviews included another four years of journaling that was possible due to a twenty-year study abroad program being put into place. The doors to administrative offices in the geographic area were opened for this research many years ago. Educational information bridges had been built for over twenty years by visiting students and professors. Established relationship ties and academic exchanges continue to be expanded every year; an asset to anyone wanting to do research here. This is only one of several avenues toward positive change in Mexico that has been put into place by researchers from visiting countries. Further investigations will determine how successful this study was in determining how many children need positive adjustments in environmental factors (adequate nutrition and caregivers increased access to information) in order to thrive physically and achieve academic success.

This data raised awareness regarding where, how many, and what developmental delays and special needs exist in rural Central Mexico. Data implied that rural caregivers want positive steps taken to empower themselves and also their children. Success has been realized within this study, because I can see how these results can be used to help my ‘campo’s’ caregivers and their children. I was seeking to understand the sociocultural influences on human development that “*can be understood only in light of the cultural practices and circumstance of their communities – which also change*” (Rogoff, 2003). I found a variety of answers, many which spanned even more questions.

Data verified numerous sociocultural influences on human development. Creatively advancing into the next step, I foresee additional interviews of caregivers as offering insight into what approach for developing a program would be most culturally

appropriate and likely to encourage caregivers to take ownership of the program. With a PAR approach that included attention to detail and patient planning, such a program would be sustainable and integrate new ideas, needs, and desires of the residents into cultural adaptations and *positive social change* (Fletcher and Artiles, 2005) agreeable to the entire rural community. With this study, I certainly got a lot more information than I bargained for, but if I had already had answers I would not have called it research, would I?

APPENDIX A- PERMISSIONS



CENTRO DE ATENCIÓN INTERGAL
DE SERVICIOS ESENCIALES DE
SALUD GUANAJUATO.
DEPARTAMENTO: DIRECCION
OFICINA: E.R.A.A.T. No. 1
OFICIO NUMERO: 229/2009

ASUNTO: Constancia de colaboración y apoyo.

Guanajuato, Gto., Febrero 24 del 2009.

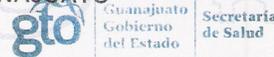
UNIVERSITY ARIZONA
INTERNACIONAL REVIEW BOARD
P R E S E N T E.

El que suscribe Dr. Héctor Jesús García Romo, Director del Centro de Atención Integral de Servicios Esenciales de Salud Guanajuato, hace constar que **JACQUELINE MACKENZIE**, se encuentra colaborando en la evaluación de niños con discapacidad, así como brindando capacitación a madres de familia y médicos de este Municipio a mi cargo, en las actividades relacionadas con el programa de **ESTIMULACIÓN TEMPRANA**.

Se extiende la presente a petición de la interesada, para los usos y fines procedentes.

ATENTAMENTE
"GUANAJUATO, CONTIGO VAMOS"
EL DIRECTOR DEL CAISES GUANAJUATO

DR. HÉCTOR JESÚS GARCÍA ROMO



CAISES GUANAJUATO

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*Laura.

APPENDIX B – PRE-STUDY INFLUENCES ON CONCLUSIONS

Networks had been set into place long before this research began without which this study would not have been possible in Mexico. This research was not solely confined to the participants who were observed, interviewed or overheard talking within clinics or community centers in an effort to inquire about information related to the research questions; there was a mutual history that had to be inter-woven beforehand within Mexico to develop cultural understanding and trust (C. Moll, 1992b, 2009; Moll, et al., 1992; Ogbu, 1992b; Rogoff, 2003) and overcome the tendency of interviewees to either not answer the questions being asked in interviews or only give information they thought might be expected from the interviewer instead of their own opinion, because Mexicans work very hard to please others and avoid conflict (Rogoff, 2003).

Additionally, my lack of agility with the Spanish language the means to impart information, to comprehend knowledge or lack thereof (González, 2001; González, et al., 2005; Moll, et al., 1992; Vasquez, 1994) and shortage of intimate cultural insight had to be overcome to some extent before beginning this research. The *process of inquiry began years before*, therefore, some mention of that complex process must be reported here, and some explanation of the involvement or others woven into this final product must be explained in order to validate our commitment to the validity of this study. My translator-gatekeeper and I did not *drop-in* to this rural community to extract information for a study; instead we permanently relocated our home, family, eight domestic pets, two equine therapy horses and our life's work into a small indigenous village in rural Central Mexico as participant observers (M. Fine, 1992 ; Little, 2002; Spatig, et al., 2006). This

mixed of people and animals came to Central Mexico and applied an emic approach to find answers in order to make a *social change* difference (Fletcher and Artiles, 2005).

Established Mexican city family connections.

May 2005 was my first visit to the city central that was the geographic hub for which the researched villages were the spokes of a very large wheel. My host family was to be my home every summer for four years, three times with Jolene along and once with my husband Don joining us. The family patriarch had owned extensive amounts of land at one time and all his children attended private school, but by 2005 his wife and his daughter, who lived next door to my initial host home, each counted on visitors to supplement their family's income. The combined homes could sleep twenty-two people. From the first year, the family patriarch coached me in speaking Spanish to him while his wife, Catrina, taught me how she negotiated her life as head of the household and caregiver to many visitors. She taught me about aspects of domestic Mexican life that included the role of the obedient Mexican women subservient to any whims of the macho Mexican man while at the same time running the household on her own. She explained the plight of the housekeeper who was the lowest social class. She also elaborated on some aspects of Catrina's own life outside her world of guests, houseplants, caged canaries and trips to the local markets. She explained much of the status of children; both the exalted male and his domestic-trained and yet groomed to marry-well sister. Her sincere kindness made me promises to return the next summer. I enjoyed one more year with her in 2006 with my husband and Jolene before Catrina died suddenly in her own home right after having lunch with her daughter, Ester, who lived next door. During Catrina's time with me, and afterwards, Ester gave my family and me the same sincere

kindness that her mother offered. After her mother's passing, Ester took over the job of running both homes and the hosting business that occurred inside them. Her job as caregiver daughter of her then widowed father lasted only about a year after Catrina's death; her husband joined her by quietly passing into another existence himself. Ester was then free to care for her own family and guests without the unreasonable demands made on her time and energy by her widowed father (Mackenzie, 2009).

Ester's husband was an attorney, as was her eldest son; the youngest son was an economist. Although both were grown, they lived at home and did not help out financially; Ester explained that they saved money to buy their own homes. Mexicans do not use credit except with the family or extended family. Ester elaborated that Mexican families care for their children all their lives. Ester explained the complexities of raising Mexican children after a time when private school was not financially available and yet she made clear the distinction that her social ranking was still firmly in place, despite the changes in actual available economic resources. After four years, Ester and her family referred to us as family (Mackenzie, 2009). The day we announced our planned move to the ranchos, she looked at the three of us like we were wayward children; clearly we must be kidding she remarked both by her words and her facial expression. The depth and extent of the social class structure impacted us at that moment as it had never done before; we were beginning to understand a little regarding our cultural and profound social class differences (Ogbu, 1992b; Rogoff, 2003).

Attorney and law professor.

Ester's son, Mario, had his grandmother's compassion; although born of a higher rank he has chosen to work in the government offices that oversee non-profits, grants and other forms of service to those living in the ranchos. Mario has donated his time and expertise to helping us to overcome the hurdles in law connected with our charity work. His generosity is priceless to those who are attempting to maneuver a sea of rules and regulations far different than those very well known to me. The *relationship factor* is why he offers so much to us. In the summer of 2005 he was a young man on a bicycle, now, as a law professor he regards me as an elder to whom he is showing respect (Mackenzie, 2009). Valdés (1996) defines "respeto," which translates as "respect" in English, but means much more in Spanish "in its broadest sense is a set of attitudes toward individuals and/or the roles that they occupy" (p. 130). That behavior within relationships, I have come to know, is the Mexican way (Valdés, 1996).

University affiliates, friends and colleagues.

Todd Fletcher, PhD, of the University of Arizona College of Education and Department of Special Education, Rehabilitation and School Psychology began bringing students to Mexico as a part of a study abroad program in 1986; within four years his focus within that program was the Central Mexico City that is the urban hub center for this rural outlying research. The *relationship factor*, which he developed within Mexico, had deep roots in the city where this study began. That roots extended into institutions of higher learning, local language schools and nearly every Mexican government administrative or social services office, plus many people in all walks of life. Fletcher also brought visiting professors every summer from Chile, China, the USA, and Mexico.

He brought Silvia Romero-Contreras, PhD., University of San Luis Potosi, Mexico, from the neighboring State of San Luis Potosi so regularly that she got to know my work and agreed to be my dissertation co-chair. Fletcher's connection with the governor contributed to the *relationship factor* in which I had a great deal of confidence when I, as a visiting graduate student, naively requested an audience with the governor's wife in the summer of 2006. I was received into that meeting and developed a lasting relationship because of Fletcher's *relationship* developments in years past. Due to contributions to the educational system in the form of visiting volunteer teachers as *ambassadors* of cooperation and knowledge, participants in a mutual learning community within each school where the university students assist the public school teachers, has developed a mutual respect that extends from Fletcher to each of the students who attends his program. It is this mutual respect that has helped this study to have access to government administrative offices that would likely have otherwise been *off-limits* to researchers like us from outside the country of Mexico (Mackenzie, 2009; Ogbu, 1992b; Rogoff, 2003).

City administrators, offices and organizations.

Mexican politics and policies are very difficult for those from the United States, Canada or England to comprehend. What must be understood is that one set of politics and policies is not right and the other wrong, the two simply function quite differently (Ogbu, 1992b; Rogoff, 2003). An example of political differences is that a new administration will most certainly change the rules on immigration forms or car registrations, something that takes a great deal of paperwork and time to gather all necessary documentation for and immediately initiate the changes without any warning to the public or any training for the employees who must process the paperwork differently. Within minutes of the office

opening there will be chaos as both the citizens and the government employees must now adapt without any forewarning because that is how it has always been done (Rogoff, 2003). An example of policies differences follows. In Mexico if a person is incorrectly parked the police officer will remove the license plate from the car and leave a ticket on the windshield. The ticket will not state a price (the amount of the fine) for having parked incorrectly, will not have a phone number to call or even an address to go to get the license plate returned. That kind of thinking within politics and policies is neither right nor wrong, but it was certainly different from previous experiences (Mackenzie, 2009).

Former governor and his wife.

For whatever reason, “Mattie Rios Lee” gave me audience one late afternoon in 2006. She has a presence that fills any room she occupies in Mexico. “Mattie” is a distinguished matronly white woman of obvious *high breeding*, a mother of ten children of her own and a highly driven businesswoman with clear goals; she is fully bilingual. We instantly developed a friendship bond created by our mutual concern for those elderly people living under cardboard boxes where mice bit them all night awakening them, families without the economic means to physically shelter their children from dangerous natural elements and disabled children who could not gain physical and social independence without equine therapy available at her ranch. I left with what I had requested: permission to volunteer in a social services program for child care and preschool for which she was the director, but I also took away what I felt would be a lifelong effort of working as collaborators for positive social change in Central Mexico. She was a politically powerful informant throughout this research project. Our relationship was grounded in our shared serious professional missions of helping the poor, orphaned and/or disabled. This bond

extended to include her husband, her mother-in-law and her brothers-in-law's professional welcome; all of who are in local and federal politics. The *relationship factor* was put into place in 2006, but the after effects count for a great deal of opportunity for positive change in the coming years (Mackenzie, 2009).

Non-profit organizations.

Other people in position of leadership would influence the progression of this research before it even began. The summers of 2005, 2006 and 2007 I would cross paths with Beth Valenzuela. Beth was a coordinator for summer programs for other universities and what I like to call a *chronic volunteer*. Beth was deeply committed to the local women's shelter, a local women's charity organization and several other established public and private social services programs that required volunteers. This volunteer involvement is highly unusual in Mexico; it is uncommon to give time, effort, expertise or financial benefits to charity programs. The laws make running volunteer programs very difficult and discourage efforts to help those in need. Social services are often limited to only those who work for the government; there is little *social security* in any sense of the phrase. Developing a mentoring relationship with fully bilingual Beth Valenzuela has been a major asset in informing me about social and political aspects of living in Mexico while functioning as *a positive agent for social change*. She has sacrificed personal gain in order to realize social benefits for her community; she was an enlightened informant throughout this study (Mackenzie, 2009).

Social services office.

Strauss and Corbin remind the researcher "...that different research projects are effected by different conditions...because of bureaucratic regulations, costs, shortages of time, or language barriers (1998, p. 6); all of which applied to this study. The first Internal Review Board (IRB) approval for this research arrived electronically days after I arrived in Mexico in 2008. I immediately contacted the childcare and preschool government run organization (DIF Infantil) where I had volunteered the previous two summers and had confirmed permission to continue as a volunteer researcher in 2008. What I did not understand is that within the hierarchic political structure of the Mexican government reigns a system of overwhelming change every six years based on the *relationship factor*. Every six years the change of political power goes down to the lowest level of employees; there is no social service protection established, as in the United States, for those lowest level employment positions. Therefore, new people replace social service employment positions in Mexico when the political power changes and often the entire structure of the organization for better or for worse changes. The new director of the DIF Infantil approved my continued observations and new research, but I was required to gather approval from her new boss. For the next month I attempted to gain that approval. From the day I arrived at DIF Infantil to do my research until the day before all the University students under Fletcher left the summer 2008 program I had two to five times a week visits with the person from whom I needed approval. At that time this naïve researcher did not realize that within this society a "mordida" was expected; a literal translation of "mordida" is "a little bite." The actual meaning of "mordida" offered to government official in the United States would be an illegal bribe, in Mexico it is actually

an anticipated service fee connected with doing business. This service fee applies to any Mexican citizen, in a government office or otherwise. Numerous informants have explained that each employment position has a level of anticipated cash transactions connected with the role. Bureaucratic regulations offered me no other options of anyone to contact other than the sole administrator with whom I interacted. Additionally, I was ignorant of what was expected of me to gain that permission. The very last day of the University of Arizona summer 2008 program overseen by Fletcher I received permission to do my research. Only the administrator signed permission; the parents I was to interview were forbidden from signing anything because by law, as Mexican Nationals, they had given their authority over to the government. My IRB required parental signatures; I needed to amend the IRB application with verbal permission from all the parents to the paperwork read to them by my translator and witnessed by my translator (Mackenzie, 2009). This five-week period of frustration was only the first of many administrative hurdles I would face within this study due to "bureaucratic regulations, costs, shortages of time, or language barriers" (Stauss and Corbin, 1998, p. 6).

Childcare and preschool government organization (DIF Infantil).

The educational experiences working children with severe and profound disabilities at DIF Infantil coalesced what I knew from both academic resources and experiences working in public and private schools with special needs children and teachers; special needs education was approached differently in Mexico. The large, light, modern and very well equipped facility was capable of handling up to 450 children from birth to age six. Normally the school had about 100 less than capacity. On staff was not only all the administrators, security and teachers found in public schools but also a full kitchen staff

consisted of a nutritionist, nurse and medical doctor; psychologists and social workers also included when needed. Both indoor and outdoor physical facilities were airy and inviting; like the private kinder thru two-year college program a few blocks away, plants were everywhere. The fact was that few preschools that I have visited in the United States were better equipped or had a better teacher to student ratio than DIF Infantil. Our two initial contacts in 2006 were Maria Garcia and Karen Nieto; both trained as speech and language therapists. They worked as permanent full time employees with children at the facility in a *pullout* resource teacher role for speech and language problems. Jolene and I developed a strong connection to Karen immediately and have been working with her exclusively since that initial visit. Karen was an outstanding informant, as a former nun her devotion to the children was her entire life. She worked two jobs in which the children had severe and profound challenges. Maria had the responsibilities of a family and in 2007 a new infant of her own; her life-scope was broadened. Karen used every minute with any child to the best of her abilities. Her job required her to bring a child from the classroom to her office or to the physical therapy resource room. As soon as she had a child under her authority she would begin physical therapy appropriate to the child using tape lines she had placed on the floor or stair climbing activities; although her job description was speech and language therapy her focus was to meet the needs of the whole child with as many therapy methods as time presented to her. Most of the three or four children she cared for had severe and profound physical and mental disabilities in addition to speech and language challenges. Karen was a creative professional teacher who informed us of the educational practices applied to younger children speech and language challenges as well as severe and profound disabilities, special services available

to their parents, number of people attending their specific program, who does not attend and why, and political influences on children with speech and language disabilities. Other informants included the two different DIF Infantile Directors in 2006 and 2007; the second one stated, "*Mexican people are the most creative in the world. They have no social service programs so they must figure out how to earn an income*" (Mackenzie, personal journal, June 2007).

Severe and profound disability school.

A portion of every visit over five years from 2005 thru 2009 I have visited the government run school for children with severe and profound disabilities (CAM). Although the employees have changed, the connections to the school have stayed in place due to my continued connection with Dr. Todd Fletcher and with my assistance with the children with severe and profound disabilities who attend CAM. Since 2006 I have been involved at many levels with equine therapy. In 2006, 2007 and 2008, I was at Mattie Rios Lee's ranch observing equine therapy being used for children attending CAM. Since the fall 2008 every week, on year round basis, children with severe and profound disabilities who attend CAM have come to my home in rural Central Mexico for equine therapy. Since February 2009, Jolene is a certified equine therapist. My journal reflects a visit to the CAM facility in preparation for the visiting students arriving in Central Mexico the following May:

The Director (name withheld) was not available but I managed to speak to (another administrator: name withheld) who was having a parent conference in a room on the second floor. As always in Mexico the entire household was there. I amused the female

child of about 3 years of age with some of the tiny animal toys I carry with me all the time now. The child is a victim of Down's Syndrome. Her brother of about 6 years and grandmother were there also. We laughed a lot together; smiles and laughter are so delightfully common in Mexico. I left a gray rhino and a zebra behind in her tiny fingers, before I left to watch three other children playing in another classroom. The boy was showing off for me by doing cartwheels on the floor (Mackenzie, personal journal, January 23, 2009).

Administrators, teachers, psychologists and social workers connected with CAM have been informants regarding educational practices for children with severe and profound disabilities, special services available to their parents, number of people attending their program, who does not attend and why, and political influences on children with severe and profound disabilities.

Language therapy facility.

In 2006 I had the opportunity for two weeks to work in the government social services office, which provided speech and language therapy to children. My experiences from 2003 thru 2008 as a special education teacher in the United States allowed me to have observed several speech and language therapists at work with my students. The methods were very similar, but both the number of clients and severity of difficulty speaking were accelerated in Mexico. The therapist, her secretary, parents, siblings and the children being served all became informants regarding educational practices for children with speech and language challenges, special services available to their parents, number of

people attending their program, who does not receive services and why, and political influences on children with speech and language challenges (Mackenzie, 2009).

Department of health services.

Several meetings with our visiting local community physician, Dr. Lidia Rios Villalpando, resulted in her asking that we participate in a rural health screening program designed to both inform mothers about how to stimulate their infants and identify possible developmental delays. She explained that this was a personal concern of hers; overcoming the lack of knowledge of how to interact with infants early in life and also how to help mothers to overcome developmental delays if they are identified. After asking many questions and determining that this might be a good fit with my approved dissertation topic, Jolene and I agreed to meet with the director of several city and rural health departments. Thursday, December 4, 2008 was my first official visit with the Mexican Health Department; the following journal entry captures that event.

At 9AM Jolene and I had Dr. Lidia Rios Villalpando in my Rav4. We were headed to GTO Central to meet Dr. Rafael Sanchez Leyva, (real name used by request) who I understand from Dr Rios to be the Director of Health for Guanajuato, San Felipe and Dolores Hidalgo. I am also told that he speaks English.

When we arrived it was very clear that our visit was anticipated. Dr. Rafael Sanchez Leyva soon greeted us each in a deeply respectful manner. Dr. Sanchez is a very distinguished, approachable and humble gentleman who understands English because he was due to have been educated inside North America. His Spanish accent is hardly noticeable when he speaks English, but he uses it rarely. His warmth and charm are

overwhelming, filling the entire office immediately. I felt I had entered the office of a highly respected person I would soon grow to call my colleague in service and friend. His manner and words were very sincere.

He asked me what he could do for me and I replied that I was there to ask how I could serve him. Soon he asked if I knew “Mattie”; my full-faced grin was my reply. He remarked that Mattie was his wife's dearest friend. He asked why do you offer your time and experience to Mexican children? I told him that in 2005 with no Spanish language I was treated with absolute respect in (his Central), Mexico (city), and every year since; therefore my heart cannot teach Mexican children in the USA now. In the USA Mexican children do not receive anything close to that consideration. I am here to find ways to help teachers in North America appreciate the treasures that arrive in their classrooms from Mexico. I am here to learn and share what I have learned and will learn. I am here to make my permanent home in a country where people respect each other (Mackenzie, personal journal, December 4, 2008).

The sequence of events that followed in that meeting included many other people and many questions. The meeting we attended continued for about two hours; about ninety-eight percent in the Spanish language. In the end the unanimous decision was that Jolene and I were to meet with many clinic doctors on December 18, 2008 and present my research proposal. My dissertation topic had been approved November 18, 2008 in Tucson, Arizona, I had advanced to candidacy, I had verified with two of my doctoral committee members and my department chair that since my original IRB was in place until June 2009 and my new one had been submitted electronically, December 5, 2008, to the College of Education for signatures and passing onto the IRB office, observing

children in a Mexican government facility with employees present and asking their caregivers questions about their child's development was allowable under the initial IRB which covered both of those circumstances thoroughly; therefore, I agreed to the next meeting with Mexican doctors.

I presented it (my research proposal) yesterday to about 20 doctors and Dr. Hector Jesus Garcia Romo, Secretary of GTO Health Services (Centro de Atención Integral de Servicios Esenciales de Salud). Jolene called herself my tongue, but her struggle for words reflected my heart too. These 20 young men and women were thrilled to have help. Several tiny villages have children who need intervention techniques taught to them, their families and to volunteers. Within seconds after finishing the presentation, a list was being made to define what villages would be visited when in January. Jolene and I will go 3 days a week for 4 to 5 hours a day. Each visit will include a doctor and two nurses. We will compile a list of the needs, evaluate the resources and plan the next step (Mackenzie, personal journal, December 18, 2008).

Bilingual woman's organization.

For over fifteen years a group of women in the near-by city have met once a month, held fundraisers, identified financial need and provided scholarships to children needing them. The cooperation that exists in a totally bilingual group is amazing. We are able to exchange information and answers from middle and upper class Mexicans and English speakers through this connection. Mattie, the former governor's wife is very active in it, as is her mother-in-law. Jolene and I began attending the monthly meetings as soon as we moved to our Central Mexico home; we are on the orphanage committee. The

theoretical comparison (Strauss and Corbin, 1998, p. 82) in attitudes and goals between the highest social class Spanish or English speaker in the inner city and the indigenous language speaker living in an outlying native village is a stark contrast. Attending a meeting in a million dollar plus valued home to evaluate if a scholarship request of \$600 pesos a month (about \$48 USD) is a worthwhile project and the next morning Jolene and I are sitting in an adobe house that is crumbling around us, a structure which is home to eight children, their mother and one grandmother; there's no male wage-earner. That contrast is quite a culture shock. A short journal entry follows:

The 11-year-old girl on the bed has hydrocephalus and had spinal meningitis too. She never gets out of the house, out of her dirt floor bedroom since she has no wheelchair. Her legs are permanently stunted and curved. She has a shunt into her abdomen to relieve the pressure on her brain. Her 15-year-old sister sits next to her. This young woman was born sighted, but at the age of 12 a tumor appeared at the base of her brain stem. Removal of it saved her life, but that took her sight. They share a dirt adobe home with mom, six more siblings and grandma. Grandma was doing the dishes outside (Mackenzie, personal journal, February 19, 2009).

The meetings will continue to be a part of our lives, because we both feel that although there are many days when we miss visiting the rural indigenous children, sometimes the overwhelming needs that we witness first hand are depressing to accept as their day-to-day reality. We cannot help but compare our lives of access to information and their isolation. The medical personnel told us that most of the women have daily concerns for themselves and their children of having something to serve for a meal or keeping natural elements outside the home. Children were observed nearly always spotlessly clean. It was

hard for us to imagine what efforts those mothers extended of themselves to provide a bath when many homes did not have access to water, almost none to (wood) heated water (Ogbu, 1992b; Rogoff, 2003). We learned that clothing was passed around among families and extended families in order to keep children well attired, but water was an expensive commodity (Mackenzie, 2009; Rogoff, 2003).

Visiting university undergraduate and graduate students.

Every summer the study abroad program attracts students of all ages and from different universities for a Spanish immersion experience and college credit from courses offered into the city near our rural Central Mexico home. For about seventeen years the University of Arizona Study Abroad created channels that existed within the city in Central Mexico near the research sites visited for this study. I have attended this immersion program for five consecutive summers, four of those with Jolene, my gatekeeper translator accompanying me. Many of the students who attend this program are second or third generation Mexican Americans who are seeking their cultural roots. They already have command of the Spanish language, but have not had time or personal connections within Mexico to establish their bicultural identities. The networks created by this extension program have opened access into other networks within the city and rural communities making this a rich and frequently life-changing experience for students of various ages. The fact that many of these university students are bilingual and bicultural makes them informants who are not only aware of how to create verbal analogies for better understanding, but they are also able to expand comparisons (Strauss and Corbin, 1998) in a manner that makes their input into my understanding a priceless resource. The fact that several, like me, have returned year after year and therefore have

created a relationship factor, which developed a deeper level of cultural and scholarly understanding, is of profound benefit within this study. These students are reliable and easily understood informants (Mackenzie, 2009).

Rural Administrators and organizations.

The outlying villages, which are unincorporated spaces where people reside in sub-standard structures for many years (which resemble hastily-built disaster-relief housing), are a very sharp contrast to the great exterior stone walls that surround magnificently carved granite haciendas with impeccable gardens in interior courtyards which exist inside the cities. In the villages a passerby may glance from the dirt path on which they are traveling and see entirely through and out the other side of a structure where an entire family resides. Inside the city only great exterior stone walls with broken glass attached all along the top are seen; not a clue is present to tell the passerby if a mansion or a small business resides within that interior. To understand Mexico requires that the history of Mexico be studied from reading books, examining great wall murals, and observing the elderly indigenous people while listening to their stories. The politics have become democratic but the culture has not moved away from the memories of the severe oppression of the people that is in that expansive history, oppression that drove them to build high walls to hide behind then and has become the standard still present today.

Rural health clinics and community centers.

Although it seems impossible, every experience with any medical personnel in the eighteen locations we visited one to a dozen or more times was one of warm welcoming

and treating us like having great assets to offer their community. In several of the clinics the doctor(s) would introduce us to the group of women in the lobby; once a doctor remarked "*We are happy to have these people on our team,*" (Mackenzie, personal journal, January 20, 2009); making both Jolene and I felt like their professional equals. Before, during and after each clinic visit we were made to feel welcome no matter what other social or natural influence may have been a part of the exchange. All the personnel were welcoming, warm and inviting of any and all questions we might ask; even difficult ones in casual conversation like incidences of spousal abuse or incest within their communities.

As always, the Mexican people were very forgiving of our tardiness even though we learned that we were 90 minutes late, not the 30 minutes late we thought; the expected time of arrival information was 9am. Our information of an expected 10am arrival was incorrect. Regardless, the nurse was full of smiles and welcoming to us. She asked us to have a seat and soon the doctor would arrive.

As promised, Dr. Julie arrived in just a few minutes. She was about 28 years of age, relaxed and welcoming (Mackenzie, personal journal, January 12, 2009).

Much to our surprise we were asked to start visiting clinics shortly after our initial meeting with the medical providers for the rural clinics. Dr. Lidia Rios Villalpando handed us the name of a rural community and a small sketch with no road numbers or names, no distances marked; the sole instructions were to be there at 10am. Our initial observation at a rural Mexican health clinic occurred on January 12, 2009 in Zano, Mexico; the following is a small portion of that journal entry:

Our first day of observations of infants in local rural health departments was quite an adventure. Setting out with a hand-drawn map, no addresses, and no phone numbers, we were told (by Dr. Rios, the scheduling person) to arrive by 10am at a place on the other side of the dam; a horse-back riding distance away from our home. We traveled on dirt, pavement, a six-lane highway and then dirt again. We went half way to (a near-by full sized city) and then back to the dam right across from our home. What actually occurred is that we arrived at 10:30am over 28 miles away (57 mile round-trip)! We did not get lost, we simply learned another lesson about what occurs when the bridge to (a village) has not been repaired, it is a long way to anywhere from (our home).

She (Dr. Julie) showed us into the salon where the early stimulation was done. We talked for some time. We learned that this tiny community has many children under a year old needing stimulation and only two boy children, 3 and 6 years of age, who have special needs. Both boys have cerebral palsy. Twice a month they go to Irapuato for stimulation (over an hour each way by public bus). Then we learned that two ladies had been waiting since 9am to see us! We asked that they come on in to see us.

One lady was carrying an infant girl only 12 days old; the other had a crying boy 5 months of age. Introductions were made all around the room. Everyone was greeted with respect and offered a full-face acknowledgement and a handshake. I asked to first simply observe. They agreed and asked to examine the newborn. The doctor and nurse piled up 3 cushions (on the clinic floor), covered that with a clean cotton sheet and laid the baby down on them. As always in Mexico, every detail is carefully handled as they attended to the infant. I am always so pleasantly surprised at the full and relaxed attention to people instead of hurried and distracted attention to watches and information accounting.

Although I asked the child's name and age, none of this was recorded by anyone else.

Actually, the infant had not even yet been given a name.

The nurse, who was kneeling at the child's feet, moved the child's arms up over her head and then out to her side twice; she then brought her legs up to her tummy twice. The mother was instructed to do the same every day. That was it. That, I was told, is the suggested stimulation for a child of this age (Mackenzie, personal journal, January 12, 2009); the same procedure was done for the much older second child.

Seven days later on January 19, 2009 my department chair, Todd Fletcher, arrived in town. The next day we discussed the six rural Mexican clinic visits that Jolene and I had already completed using the observation and questionnaire protocol that I developed before sending my second IRB into the University of Arizona Department of Special Education, Rehabilitation and School Psychology the previous December 5th. When I inquired, Fletcher replied that he had no idea why I had not yet heard back with an IRB approval; he suggested I be patient that maybe it was still in the department due to the holidays. The goal of the IRB approved May 16, 2008 was "to examine socio-economic, cultural, or educational influences effecting children's learning" which was identical to the observations and questions asked within this study with the additional data analysis of the findings to record if the child had any identifiable developmental delays that might affecting learning. During Fletcher's January 2009 visit I took him in my little car to several of the small towns we had already visited both to expand our cultural and educational informant base and to observe children in clinics. In each case and months later I realized that my *theoretical comparisons* (Strauss and Corbin, 1998, p. 82) of the

initial journal entry to the last observation and questionnaire were entirely accurate to the observation and questionnaire goals throughout the entire study:

While the doctor and the nurse are looking at health issues within the child, I am looking at the whole child from a little different viewpoint: education. I am concerned that the child is ready and eager to learn. I am looking for tiny clues to anything that might prevent learning. Yes, the child needs to be healthy (void of any medical condition that might be repairable), but also physically strong, mentally alert, reactive, socially aware, communicative, and able to show a blend of characteristics that together will make learning easy for the child. I am looking for any suggestions of a developmental delay that might be overcome with additional exercises, mental or physical, that time devoted to the child might overcome; often this means considering the option of training a parent, sibling, friend or another volunteer (Mackenzie, personal journal, January 12, 2009).

Initial research for this study began January 12, 2009 and paused on February 25, 2009. No visits were scheduled the rest of February, during medical personnel meetings in March, or during the Easter holidays and finally not during the H1N1 flu scare. During those long months of waiting I kept asking about the status of my new IRB. In early May 2009 I learned that my paperwork had sat in the College of Education until late March or early April before actually being turned into the Internal Review Board; no one could explain why. My new IRB approval was dated June 9, 2009. From June 12, 2009 until July 31, 2009 every week I collected data at the health clinic closest to my home where Dr. Lidia Rios Villalpando was located and usually one or two days a week at a community center. From August 6, 2009 until October 30, 2009 I collected data various health clinics and community centers because getting my appointment schedule started

again was an administrative challenge after Dr. Lidia Rios, who was our original scheduler, was transferred out of rural health clinics.

Yesterday Jolene and I worked with Dr. Lidia Rios and about thirty others cleaning up around the (name withheld) beaches. Dr. Lidia Rios works for the city health department. She is trying to get our village cleaner and teach the children about environmental issues under a program called "Oportunidades". This is a federal program where the high school students who help clean up (six times a year) or other government backed programs and then get money [in the form of building supplies] for their families as a result. (Mackenzie, personal journal, November 2, 2008).

Mexican women's rural business.

In 2005 I visited a rural business started by local women who took into the marketplace the skills once taught to very young woman: preserving seasonal fruit. "I knew that smell and smiled knowingly when the young college student next to me asked: *'What is that smell?' 'It's preserves; home canning I imagine,'*" I replied. However to my delight it was a series of large vats boiling down on a commercial stove inside a small store.

Several women where there inside the store selling preserves, liquors, coated nuts and other traditionally preserved items as part of their job of bringing money into their rural community and at the same time they preserved traditional domestic skills (Mackenzie, personal journal, June 6, 2005).

Over the next four years I have visited the store and noticed that the store has expanded two separate times; the labels have become more sophisticated and the offering varied. I understand their market share has grown. Today their wares are in stores in the near-by

city and even further away from the small rural store where these women gather daily. Rural Mexican women are often observed being innovative about finding a means to feed their families, from picking cactus to gathering found fruit off the ground, but few have taken the next step and created a business of talents and experiences they share.

Our local rural Mexican family.

There are certain times in life when *the relationship factor* has to be trusted completely; Saturday, June 21, 2008 was one of those days. That was the day we met the family, Valenzuela, from whom we rent our rural home. The home was non-functional by city resident middle-income Mexican standards: the refrigerator did not work, kitchen sink was falling off the wall, the water heater was broken and the toilet did not flush. It took from June 30, 2008 until mid November 2008 for us to have minimal creature comforts; in the meantime we simply lived like outdoor campers. In the same manner as our neighbors we cooked, ate, washed clothing, and relaxed outside. Unlike some of our neighbors, we soon had piped in water into the home and flushing toilets:

We nearly have a functioning home: hot water, flushing toilets, showers that work, places to hang clothing and sealed floors. It has been quite a ride! (Mackenzie, personal journal, November 12, 2008).

Having been accepted by the Valenzulas as part of their extended family, we have made contacts with and been accepted by other predominately indigenous Mexican families in rural Central Mexico. In addition to renting us their home, the Valenzulas helped us make the one thousand mile move. Of the fourteen trips made across the border between May and November 2008, six of those trips included Gustavo Valenzuela, the head of the

family and two trips included at least one of his brothers or cousins. We spent a week traveling each trip between July 2008 and September 2008 across Mexico, Texas, New Mexico and into Arizona in a non-air-conditioned truck. This time was spent as an extended Spanish lesson for me from Gustavo. Gustavo is an educated man, both from having attended college and from his own initiative. His wife has been a teacher for twenty-five years. Their eldest child, a girl, is attending medical school. All their children speak Spanish and English. Gustavo is one of fourteen children, the first born of his father's second wife (the first wife died in childbirth) and the first offspring to have an education beyond sixth grade. His older siblings, in their sixties, and his mother who is nearly ninety never learned to read. Gustavo is a voracious reader, as is his immediate family. The opening of his home and heart to us, teachers, was a direct reflection of his commitment to opportunities for rural children to develop a greater knowledge base; he knew that we offer free English lessons in this rural community several times a week. Gustavo's acreage next to the rental home has made it possible for us to offer equine therapy to children with severe and profound disabilities in rural and urban areas as well as to the children who attend the severe and profound disability school in town. The coordination necessary to make that possible was quite an international success story.

The crossing back into Mexico with household goods and livestock for a horse therapy program took a lot of cooperation. Many people helped to make that possible. We began the horse crossing with our USA vet, (name withheld). He began the horse disease health testing and preventative shots for the two horses in August of 2008 (assisted by Jolene and Rose [our Arizona ranch caretaker]) to many people all along the way to our Mexico

home. Those horses are in the backyard now because of nothing less than a small miracle (Mackenzie, personal journal, November 30, 2008).

Local rural community members.

The complex process of making the house we rented livable kept us close to the home since we were all involved in the day-to-day repairs to the home and I was still taking classes toward my degree. It should be understood before moving that in Mexico the renter, not the landlord, is responsible for repairs to a rental home or business. Land is not purchased with credit and paid for over a long time frame and then sold like other countries handle their personal business; in Mexico land is normally inherited and then passed from one generation to the next generation. Although only about fifteen percent of the land in Mexico is considered arable, or suitable for cultivation, (Biesanz, et al., 2002) all land is highly prized. Of that approximately fifteen percent of arable land 88 percent is used for cultivating food for export or grazing cattle, not for growing food for those living in Mexico. How these Central Mexican farmers grow crops on rocky hillsides on non-irrigated land is remarkable; there are frequent crop failures, but the farmers continue to plant. The desire to better their lives is evident everywhere as they continue to look for opportunities.

Yesterday a mother who lives two houses away asked me to please, teach her children English. This mother of two, a boy about seven months and girl about two years, has no indoor plumbing, but she is so knowledgeable about what matters for her children: education. She taught that little girl to walk out from behind the bushes to Jolene, Don and I and shake our hands and smile when her mother asked us to teach her English.

Grandma also made the same statement to us (Mackenzie, personal journal, October 30, 2008).

Rural employees.

Our ‘campesino’ male neighbors are subsistence farmers or stonemasons; they exist in an outdoor environment that is in touch with the earth nearly all day every day. Their wives are also outdoors a good share of the day, cooking, caring for domestic animals, washing clothing by hand and hanging it outside, walking to buy groceries and visiting with other women. The cultural expectation for women’s activities during the day is nearly set in stone (Ogbu, 1992b; Rogoff, 2003). Greenwald and Banaji (1995) state that “*social behavior often is expressed in an implicit or unconscious fashion,*” instead of being under conscious control (Banji and Greenwald, 1994; Greenwald and Banji, 1995). That thought-process would explain why childhood experiences were so valid in any environment (Ewert, Place, and Sibthorp, 2005) and, perhaps, why a bond develops among people living and working outdoors that is different from those who are normally indoors. Teamwork in outdoors environments develops critical thinking skills when facing interactions with animals, or situations in nature, that require quick problem solving and rapid responses often working in close cooperation with others (Chawla, 2006; Ewert, et al., 2005). Research has shown that students in the United States often lack exposure to nature (Chawla, 2006; Ewert, et al., 2005) and therefore have limited opportunities to develop critical thinking skills under those conditions (Kellert, 1993; Lovu, 2005; Orr, 1992; Van Matre, 1990); perhaps what skills have developed here in rural Central Mexico are not well known in places that interact in work and domestic environments predominately indoors. It may be that conditions which require specific

critical thinking skills are more likely to exist in rural Central Mexico where children spend a great deal of time out (Mackenzie, 2009). In these rural areas, children (usually males) are often responsible for moving livestock from one pasture to another many hours a day or other children (usually female) are responsible for washing clothing, dishes, siblings and cooking outdoors (Post, 2001). In urban and rural areas of Central Mexico, children walk to school, have recess at school, eat outdoors twice a day at school and spend afternoon and evening hours outdoors in recreational activities. In rural and urban areas, both sexes are often responsible for younger siblings, frequently outdoors, at a responsibility level inconceivable by the standards held in more developed countries. Teamwork and a strong relationship factor especially within the extended families are evident throughout each day in the rural villages (Post, 2001; Rogoff, 2003).

The first day we moved to the village a young man named Juan asked for employment; he continues to work for us nearly every week. When he has needed additional help, when we have needed to buy something or when friends or we have needed information, Juan brings in a relative, Juan finds us a good price, and Juan knows where to go. He greets us each day with an open easy smile and a firm handshake; he usually has something to share. He reads very poorly, but he does listen to the radio and current or local events.

After our typical morning introductions, he became solemn as he told me of the events of the evening before: a three-year old child had died. My sadness deepened as he explained that the mother had gone to (city name withheld) and left her six-year old to care for the three-year old in her absence. Apparently there was an open (water storage) cistern with stairs into the house over the top of it. The three-year old climbed up the

stairs; fell into the water, drowned and the six-year old never heard a thing. A neighbor was called, later, but it was too late (Mackenzie, personal journal, December 14, 2008).

Juan was very proud of his two daughters; the oldest that was 12 years of age was gifted and the youngest that was 10 years of age was unable to read anything until fourth grade. The oldest had nearly mastered English already; the youngest probably never will. Juan's wife, Maria, was four years older than he, but looked ten years older, as do most of the women. Maria also had few skills related to anything but domestic activities. She was considered to be a good mother, wife, sister and aunt; her time was willingly spent helping members of the family. Juan worked at two jobs, he said to keep her and the girls well dressed; she said because he liked beer. Their two room unfinished block house with an outside bathroom was always open to us for visits and celebrations.

As the sun began to sink behind the horizon, I moved closer and closer to the fire. I had spent all evening near the family matriarch, so enjoying her company and Jolene's translation of what I missed of her conversations. We watched her patiently make over 100 tortillas, more than the first bucket full, as more and more people arrived to eat them and join the festivities. One couple that arrived just late enough to easily go unnoticed, were not unnoticed. They were clearly higher on the social scale. It was immediately clear to us from their clothing, demeanor and the reaction of others that we were in the presence of welcome guests and not local family members. The woman handed Maria a cake and remarked on being happy to join her to celebrate her saint's day. We learned later that the couple had employed Maria for about two years as a housekeeper three days a week. Juan announced, after several beers, that both he and his wife were honored to have both of their patrons at the home at the same time. Don looked at me and stated

that he never imagined himself a patron to anyone (Mackenzie, personal journal, December 12, 2008).

This morning I thought about the evening we spent last night at Juan's home, in his yard, with his family. I am experiencing an ethnographer's dream: acceptance by those whose life I wish to study, service and record for others (Mackenzie, personal journal, December 13, 2008).

Rural teachers.

Although there is usually a fence around the rural village schools, it is not there to keep people out; the schools are a hub of local activity day and night. The rural schools have the same warm and welcoming aspect, as do the rural health clinics and the same dirt roads out in front of them. There is no office to check into when arriving, no security guard either and no cafeteria or auditorium; the school is four classrooms opening onto a patio. The bathrooms are separate buildings out back. A visitor is always welcome, always greeted with respect.

It was not until my fourth summer as a volunteer teacher in Central Mexico that I was finally able to identify why I was so emotionally drawn to teach in Mexico: it is the emotional intelligence that was present in the students. Even with a lack of language ability, the classroom was a socially comfortable space, even for an outsider; social awareness exists in every classroom. Emotional Intelligence (Goleman, 1995), Social Cognition (Forgas, 2000), Social Intelligence (Goleman, 2007) or Intra-personal Intelligence (Gardner, 2000) is a type of intellectual expression which appears to be so common in Mexico's schools that Mexican teachers may not even realize what a treasure

they have inside their classrooms. Dr. Goleman (Goleman, 2007) says that we are “*wired to connect*” and that this trait of being relationship oriented has a surprisingly deep impact on every aspect of our lives: sociocultural influences (Rogoff, 2003).

Another aspect of social/emotional intelligence seen in Mexico often: the classroom is outdoors. An open-air environment offers students the additional gift of physical and mental health (Frumkin, 2001; Puhl and Latner, 2007). Researchers are finding that children spend less time outdoors (Hofferth and Sandberg, 2000; Karsten, 2005; C.A. Tandy, 1999) often due to parental concerns about safety (Valentine and McKendrick, 1997) when concerns about the ill effects of too much electronic media stimulation (Pergams and Zaradic, 2006; Ulrich, Simons, and Miles, 2003) or the positive effects of stimulation of social cognition (Forgas, 2000) or development of cognitive thinking skills (Louv, 2006), or developing a love of nature with peers (Lovu, 2005) and reducing the risk of obesity (Puhl and Latner, 2007) should be a driving force for more social-emotional indoor and outdoor educational activities. Researcher have already identified that the symptoms of Attention Deficit Hyperactivity Disorder (ADHD) appear to dissipate when the child is outdoors (Taylor, Kuo, and Sullivan, 2001); another positive attribute to learning outdoors. Kuo (2001) explained, “If doctors eventually prescribe “*green time*” for the treatment of ADHD, it has the advantage of being widely accessible, free of side effects, non-stigmatizing and inexpensive.” The students in our local school are educated outside often; in fact they too often educate themselves when the teacher cannot come. There are no substitute teachers when a teacher cannot come to class.

Thursday I begin my first day at the schools. I am going to meet the principal and begin to establish a relationship within the local schools. (Mackenzie, personal journal, October 25, 2008).

For the last three years there has been a rural aspect to the program; students travel into a rural school mentored by a student from the local teacher's college. That first rural trip changed my life's goals; others are undoubtedly changed by that one-day trip. The visit to a rural school by bus may also include hitchhiking or a long walk; often the schools in distant mining areas are not accessible by bus. The highly respectful students and appreciative teachers make the visitor feel like a visiting dignitary.

Additionally, the students from the local teacher's college are a joy to accompany. They are very young because they often enter right out of junior high school, they are very enthusiastic because in their first or second year of studies they are already doing an internship in the field, and they love having the help because rural teachers are nearly always in need of an extra set of hands or eyes; overcrowding, limited interior classroom space, a shortage of any supplies and multi-grade classrooms are the norm. The schools are normally one to three rooms with a detached bathroom building. There is not facility for feeding the children so the mothers arrive with food to share or sell for a few pesos. The meals are hot, varied, and corn-based; the corn tortilla is the rural staple. Some of the rural schools have blue corn that is locally grown.

Local rural community leaders.

Positions of power, titles and jobs are very important in Mexico. Even a position that required minimal training was likely to come with a machine embroidered corporate logo

and uniquely personalized uniform. In general in Central Mexico who people think a person is and how they think about themselves is defined by their job title. Employee turnover is rare from the standpoint of the employee; salaries are extremely low and even college-educated professionals often work two jobs to cover basic necessities. There are few non-profits (corporations called “association civils”) of Mexican origin in the entire country since earning a living is paramount and working without getting paid is not universally understood.

Alberto Rodriguez, the local mayor and Francisco Lona, the assistant mayor honored our family....[these] two political servants came to our home and talked with the three of us for well over an hour. We talked about the history of Mexico, cultural issues, youth using alcohol (and the fear of violence) and how we can all work together to overcome the individual stress of these issues. They are most anxious to work with us in any way to have visiting graduate students here to work in the schools and for a library to help with educational issues. Alberto told us that (our village) was about in the economic middle of all of Mexico's poor (Mackenzie, personal journal, November 2, 2008).

We continue to be surprised at the welcome extended to outsiders by those in a position of power and influence. It is obvious that we are educated people, but in Mexico obtaining an advanced degree is not the means to social acceptance for an individual; until the second or third generation is educated the social status remains unchanged (Mackenzie, personal journal, July 14, 2008).

Locals often remark that they find it hard to imagine that we would choose to live without the creature comforts considered necessary in the United States, but it seems unlikely that factor would open any social class doors for us. We will continue to look for an answer to that question and simply enjoy the fact that the local rural mayor invited us over for Christmas Day dinner last year and get in to see nearly anyone in the urban city with whom we attempt to make an appointment.

Local rural community center.

Since January 20, 2009 our family has been involved in recycling, rebuilding, and remodeling an old building into a community center. This community asset has been well received by the locals. The attendance for free classes in English has been as high as ninety young people but averages thirty, three nights a week, when the weather is not prohibitive. The center also offers women's health classes, karate classes, and homework in any public school subject. Rarely do any married women attend; they tell us privately that their husbands do not want them to learn English. Few men attend because they work long hours in the fields; often from before dawn until late at night and long after dark. We suspect that an additional factor is that there is not a cultural precedent of studying at night and working during the day as is often the case in some cultures. Every effort that has been suggested has been followed to get city people and locals over to visit our charity work and the community center.

Thank you for your thoughtful questions regarding donations to Tierra de Verano (Summerland) or Resplendor (Brightness). The Open House that we are having on Saturday, January 31 is not a fundraiser. This event is the third in a series of

three opportunities, Dec. 20, Jan, 10 and Jan. 31, for any interested people to look over two rural non-profits: Resplendor and Tierra de Verano. We non-profits are engaged in a cooperative effort to help children have the opportunity to reach their full human potential (Mackenzie, personal journal, October 27, 2008).

The community center became a learning center for the adult volunteers including Jolene and me. Each night as we assumed the role of teacher, or teacher's aid for a volunteer who had that evening's role of teacher, *in the ethnographic sense*, we were the learners from the children and youth we were interacting with (Luis C. Moll, 2009). There were times when the situation was overwhelming, so many children, so much to teach a multi-generational group who appeared before us exhibiting various levels of ability and interest. Perhaps our own inability to absorb what they were teaching us at the exact minute that was causing us the emotional feeling of being overwhelmed. The odd reoccurring response by visiting teachers, Jolene and me was a heightened energy level after the lesson was completed that was not present at the onset. For English as a second language (ESL) teachers who are trying to understand the relationships between different behaviors and the environments where the Mexican children are learning an appreciation of where learning experiences peak or what Csikszentmihalyi (1990) calls "flow." When "flow" occurs, it can make a positive difference in the outcome of material retained. Flow occurs, according to Csikszentmihalyi, when learning is effortless and time seems to stand still while the teacher and students engage only in the learning or peak experience; a positive emotional experience. Wherever the day may take the class, in a classroom, an auditorium or a playground, by gently aligning with the treasure of

relationship intelligence that these rural children exhibit a teacher might find learning accelerates (Csikszentmihalyi, 1990). By making an effort to allow teachers and students to experience learning through the interconnectedness of this cultural treasure called by many names: Interpersonal Intelligence (Gardner, 2000), Emotional Intelligence (Goleman, 1995), Social Cognition (Forgas, 2000), or Social Intelligence (Goleman, 2007) unexpected leaps toward learning may occur. The rewards to students and their teachers should become apparent.

Gatekeeper Translator.

Jolene was a bilingual, Spanish-English, pale-skinned Gaelic artist horsewomen, former missionary and retired American Telephone and Telegraph lineperson who was Attention Deficit Disorder (ADD) challenged. Jolene had always wanted to live in Mexico, but the move here was so sudden that she recoiled emotionally for many months. On most days the number of visitors was overwhelming to her and she hid away with her two dogs. Although she would rather paint or ride horses, she has become a first class teacher of English for rural Spanish-speaking children.

Primary Researcher.

I was and still am a bull-headed, independent-thinking, self-directed monolingual, silver-haired, white-skinned, Polish-Scottish, professional student female minister surrounded by Spanish-speaking almond skin colored men, women and children mostly born and raised in this rigid social class defined indigenous village where they live with an established set of rules about how to live.

The summer of 2007 I decided "whatever it took, I was moving to rural Central Mexico with my family. From August of 2006 until late June of 2008 was a nightmare for me, and for my family. I had income worries, horrid neighbors in an inner city situation, noise all the time, too much schoolwork, a very painful hip injury with a lengthy recovery time and then lots and lots of cultural hurdles stopping my progress within the urban city in Central Mexico. Then we found our home in rural Central Mexico and things began to transition (also a painful time) into place. Little by little we began to settle into who we are and how we fit into the greater picture of life. I look back now and realize that like gestation and birth, we travel a time of internal growth and come out screaming into the cold; it takes time to find the warmth and security of a mother's breast, but that is the end we all seek. We are all traveling through life looking for that sense of security, even for a few minutes. The trip is hard, and only figurative (we can never really go home again) but the end is worth the effort (Mackenzie, personal journal, December 15, 2008).

I was only one of three adult gringos ("gren-gos": a light-skinned foreigner, an English-speaker) doing my personal best to adapt to life as a 'campesino' ("com-pa-see-no": a deeply-tanned indigenous Spanish-speaking rural village resident). The main difference was that I was also a deeply dedicated professional student with little Spanish and less time to study the language due to the specific demands of my academic pursuits. During the daylight or evening hours the rural air rang with an amazing variety of sounds: music coming from every direction as loud as every radio would play or from poorly coordinated human drummers, honking or loud speaker systems announcing public buses, tortilla vendors, propane peddlers, green-grocer's pick-ups or baked goods salesmen on the local dirt roads seeking clients who are unable to read printed flyers and therefore

must be contacted by auditory means, then screeching by distant tractors, burros or mules pulling machines that were grinding the rocky soil where the scream of metal against rock pierced the ear-drums of anyone near-by and nearly always exuberant fiestas: most of a religious nature that combined Indian culture and social activity with Catholic or Jehovah's Witness religious expressions that frequently included fireworks; these rang out from dawn to dawn, all through the night, frequently for days on end. This country (literally) vibrated within me from December 12th until January 16th as the locals celebrated the end-of year and beginning-of-year holidays.

APPENDIX C – SCRIPT FOR MOTHERS/PARENTS ENGLISH

Welcome Mothers

My name is Jolene Gailey, translator for Jacqueline Mackenzie. Mrs. Mackenzie lives at Tierra de Verano, Rancho Cajones, Cajones, Guanajuato, Mexico 36262. Mrs. Mackenzie is researching early childhood problems in rural Mexico. She would like to add a questionnaire to the early (infant) intervention class to help her with her research on children in Mexico.

The purpose of the research/study is to determine if some developmental delays in infants are actually cultural differences. If you are a parent you are eligible to participate. All research is an addition to the Guanajuato Health Clinic Early (Infant) Intervention class held today in your rural clinic.

If you agree to participate, your participation will involve one questionnaire about your child and then the normal observation of your child and exercises for your child that you have in the early (infant) intervention class. The questionnaire interview(s) will take place in a location convenient for you and will last approximately 5 to 30 minutes. You may choose not to answer some or all of the questions. During the observation(s), written notes will be made in order to help the investigator review what is said. Your name will not appear on these notes.

There are no known risks from your participation and no direct benefit from your participation is expected. There is no cost to you except for your time and you (will not be compensated for your participation).

APPENDIX C.2 - Child Developmental Checklist - Developmental Delay Analysis

Un Niño de desarrollo Lista de verificación - A Child Developmental Checklist
Análisis de desarrollo de Demora - Developmental Delay Analysis

Nombre – Name _____
 La fecha de Nacimiento - Date of Birth _____ Fecha – Date _____
 Pueblo - Town of Residence _____ Gender /Género niño niña
 Médico- Attending Physician _____ Edad mes o anos? _____

El área de Pregunta

Los resultados de Evaluaciones – Results of Assessments

Primero Impresiones – First Impressions

Bruto Motriz - Gross Motor

Fino Motriz - Fine Motor

Auditivo - Auditory

Visual - Visual

Social/las Emocionales Social /Emotional

Idioma – Language

Matemáticas – Math

Enfocan y Atención - Focus and Attention

Conducta – Behavior

Resumen final – Final Summary

APPENDIX C.3 - CHILD DEVELOPMENTAL CHECKLIST – SEMI-STRUCTURED PARENTAL INTERVIEW

Child Developmental Checklist - Developmental Delay Analysis

Age of Child : birth - 60 days

- 1 Moves arms and legs easily?
- 2 Firm finger grasp?
- 3 Responsive legs?
- 4 Eyes track an object or person?
- 5 Responds to a noise?
- 6 Does your child turn toward your voice?
- 7 Does your child move their eyes toward a light bulb or window light?
- 8 Does your child move their arms or legs to sound or movement inside a room?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food-leaks milk- sucks poorly)?

Age of Child : 61-182 days

- 1 Moves arms and legs easily?
- 2 Firm finger grasp?
- 3 Responsive legs?
- 4 Eyes track an object or person?
- 5 Responds to a noise?
- 6 Attempts to hold head up?
- 7 Lies on stomach and pushes head up with their hands?
- 8 Scoots or crawls on the floor?
- 9 Alert to surroundings?
- 10 Does your child reach for a bottle or the breast when eating?
- 11 Does your child move their eyes toward a light bulb or window light?
- 12 Does your child move their arms or legs to sound or movement inside a room?
- 13 Doesn't respond, emotionally withdrawn?
- 14 Cries excessively?
- 15 Fussy, colic, easily upset, smiles very little?
- 16 Nutritional problems (low weight- vomits-refuses food-leaks milk- sucks poorly)?

Age of Child : 183-365 days

- 1 Lies on stomach and pushes head up with their hands?
- 2 Scoots or crawls on the floor?
- 3 Eyes track and object or person near and far away?
- 4 Responds to a noise?
- 5 Alert to surroundings?
- 6 Does your child move their arms or legs to sound or movement inside a room?
- 7 Does your child know their father, grandmother or other relative on sight?
- 8 Doesn't respond, emotionally withdrawn?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food?)
- 12 Does your child reach for a toy with both hands?
- 13 Does your child hold a bottle or a toy in either hand?
- 14 Will your child eat food served from a spoon?
- 15 Does your child understand the difference between a donkey and a dog?
- 16 Does your child know the color red or yellow?
- 17 Can your child count 1-2-3?
- 18 Does your child say at least 3 words?

Age of Child : 12 mo+ to 18 mo

- 1 Scoots or crawls on the floor?
- 2 Eyes track and object or person near and far away?
- 3 Responds to a noise?
- 4 Alert to surroundings?
- 5 Does your child feed themselves with a spoon?
- 6 Will your child take semi-solid food and swallow it?
- 7 Does your child know their father, grandmother or other relative on sight?
- 8 Is your child timid or shy?
- 9 Is your child afraid to be away from their mother?
- 10 Is your child angrier than other children the same age?
- 11 Doesn't respond, emotionally withdrawn?
- 12 Cries excessively?
- 13 Fussy, colic, easily upset, smiles very little?
- 14 Nutritional problems (low weight- vomits-refuses food-)?
- 15 Does your child help to dress themselves?
- 16 Does your child ask for certain food, activities or toys?
- 17 Does your child walk on their own?
- 18 Can your child say a sentence or phrase?
- 19 Can your child count to 5?
- 20 Does your child say at least 15 words?
- 21 Does your child know the color red or yellow or more?

Age of Child : 18mo+ to 24mo.

- 1 Walks, runs, climbs stairs eagerly?
- 2 Grasps food, toys, animals easily?
- 3 Writes, colors or draws?
- 4 Mimics others: reaching for toy, holding a ball, petting animal?
- 5 A variety of facial expressions and responses to stimulation?
- 6 Responds to commands in normal voice tone from mother?
- 7 Is your child timid or shy?
- 8 Is your child afraid to be away from their mother?
- 9 Is your child angrier than other children the same age?
- 10 Doesn't respond, emotionally withdrawn?
- 11 Cries excessively?
- 12 Fussy, colic, easily upset, smiles very little?
- 13 Nutritional problems (low weight- vomits-refuses food-)?
- 14 Very busy, always on the go, and has a very short attention to task
- 15 Getting overly upset with change or transitions from activity to activity
- 16 Speaks a variety of words clearly? How many?
- 17 Can your child count to 10?
- 18 Does your child know the colors red, yellow, blue and green?

Age of Child : 24mo+ to 36 mo

- 1 Has good balance sitting on a dog, goat or horse?
- 2 Can climb into a tree, up outdoor stairs or over hay stack twigs well?
- 3 Can stack bricks, rocks, or toys and balance them well?
- 4 Mimics others: reaching for toy, holding a ball, petting animal?
- 5 A variety of facial expressions and responses to stimulation?
- 6 Can your child feed themselves with a spoon?
- 7 Is your child timid or shy?
- 8 Is your child afraid to be away from their mother?
- 9 Is your child angrier than other children the same age?
- 10 Doesn't respond, emotionally withdrawn?
- 11 Cries excessively?
- 12 Fussy, colic, easily upset, smiles very little?
- 13 Nutritional problems (low weight- vomits-refuses food-)?
- 14 Very busy, always on the go, and has a very short attention to task
- 15 Getting overly upset with change or transitions from activity to activity
- 16 Writes, colors or draws?
- 17 Speaks of himself as "I" and easily uses 10 or more words in conversation?
- 18 Puts together 4 or 5 (or more) words to form a sentence.
- 19 Matches 2 to 3 primary colors (usually red and yellow).

Age of Child : 36mo+ to 48mo

- 1 Walks well on narrow line or cracks in the road
- 2 Can hop forward (either foot or both feet) two meters.
- 3 Asks questions constantly --"why?," "what?," "how?," "when?."
- 4 Dresses and undresses self except for laces, back buttons and some snaps.
- 5 Is your child timid or shy?
- 6 Is your child afraid to be away from their mother?
- 7 Is your child angrier than other children the same age?
- 8 Doesn't respond, emotionally withdrawn?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food-)?
- 12 Very busy, always on the go, and has a very short attention to task
- 13 Getting overly upset with change or transitions from activity to activity
- 14 Responds to commands in normal voice tone from mother?
- 15 Prefers companionship of other children rather than adults.
- 16 Does your child play well with others of the same age?
- 17 Does your child play well with others much younger?
- 18 Does your child ask to go to school?
- 19 Writes, colors or draws well?
- 20 Counts by memory up to twenty.

Age of Child : 48mo+ to 60 mo

- 1 Moves rhythmically to music.
- 2 Likes to go to school and completes school lessons
- 3 Does your child ask to go to school?
- 4 Prefers companionship of other children rather than adults.
- 5 Is your child timid or shy?
- 6 Is your child afraid to be away from their mother?
- 7 Is your child angrier than other children the same age?
- 8 Doesn't respond, emotionally withdrawn?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food-)?
- 12 Very busy, always on the go, and has a very short attention to task
- 13 Getting overly upset with change or transitions from activity to activity
- 14 Responds to commands in normal voice tone from mother?
- 15 Does your child play well with others of the same age?
- 16 Does your child play well with others much younger?
- 17 Copies circle, square, cross and capital letters (V, T, H, O, X, L, Y, U, C, and A).
- 18 Speaks fluently except may have a few mispronunciations (s, v, f, th).
- 19 Gives full name, age, birthday, address.
- 20 Enjoys being read to or told stories, and acts them out alone later.
- 21 Names at least 4 primary colors.

- 22 Writes, colors or draws well?
- 23 Does your child have special needs? Do they receive special services?

Age of Child : 60mo+ or more

- 1 Moves rhythmically to music.
- 2 Likes to go to school and completes school lessons
- 3 Does your child ask to go to school?
- 4 Prefers companionship of other children rather than adults.
- 5 Is your child timid or shy?
- 6 Is your child afraid to be away from their mother?
- 7 Is your child angrier than other children the same age?
- 8 Doesn't respond, emotionally withdrawn?
- 9 Cries excessively?
- 10 Fussy, colic, easily upset, smiles very little?
- 11 Nutritional problems (low weight- vomits-refuses food-)?
- 12 Very busy, always on the go, and has a very short attention to task
- 13 Getting overly upset with change or transitions from activity to activity
- 14 Responds to commands in normal voice tone from mother?
- 15 Does your child play well with others of the same age?
- 16 Does your child play well with others much younger?
- 17 Copies circle, square, cross and capital letters (V, T, H, O, X, L, Y, U, C, and A).
- 18 Speaks fluently except may have a few mispronunciations (s, v, f, th).
- 19 Gives full name, age, birthday, address or a map to their home.
- 20 Enjoys being read to or told stories, and acts them out alone later.

- 21 Understands the concepts of adding items together, reading books, writing stories, and identifying colors?
- 22 Writes, colors or draws well?
- 23 Does your child have special needs? Do they receive special services?

APPENDIX D – CHARACTERISTICS OF EACH RESEARCH SITE

1. The Characteristics of Research Site: 1 =Air Plains

Air Plains was an isolated mountain ‘campo’ located about a ninety-minute ride from Creekside off tightly winding dirt roads that were seemingly endless. This was one of the ‘campos’ that did not seem to have a natural resources attraction; the streambeds were not a year-round asset since they were dry when we visited. The clinic was very hard to access by vehicle; a steep uphill climb from the community below. There were few other ‘campos’ nearby this agricultural site and no bus transportation in the vicinity. This site was visited once and scheduled and cancelled twice without explanations.

Note: The following comments were made after visiting APRS: "*We are assessing the children for health issues that will slow learning and teaching the mothers how to stimulate the babies. We are seeing the effects of hopeless financial situations for many years. Most girls drop out of school after 5th or 6th grade and get married (12 is the age of consent). A few years and many children later they are so very sad. No printed material and no ability to read. Many of the children are very undernourished. The work is rewarding, the mothers are thrilled to have the attention and feedback on their kids as most are single because the men are working in the USA and have another family now*" (Mackenzie, personal journal, March 18, 2009).

2. The Characteristics of Research Site: 2=Creekside (the Baseline)

The baseline starting point was named Creekside. This was our home; it was southeast of the city health department and from the local health department. Creekside was a short walk to the creek that ran into the largest body of water in the entire state. Creekside was one of fifteen communities surrounding a large dammed body of water that supplies water to the major city near-by. The main health department was located in the city; about a thirty- minute drive or seventy- minute bus ride away from Creekside. The dam that created the water storage shed in Creekside and nourished the domestic animals that walked daily near-by to graze also took away the richest agricultural land in the area; one part of the old ‘campo,’ a community chapel, lay underwater and could be seen from the shore. Political informants, the Creekside mayor and some of his assistants helped us to understand how the politics of Mexico do not consider those living in the ‘campos.’ Although Mexico called itself a democracy, like in the USA, a person cannot read and has no transportation to get to a voting booth was silenced; their voice was not heard and therefore not counted.

Note: One day I made the following comments after interviewing a mother at Creekside: "His diagnosis is "delayed psycho-motor skills," but I swear he should have a diagnosis of Cerebral Palsy and Cystic Fibrosis. ...years have passed since I worked with a young lady with C.F., however that constant and deep gurgling sound in a child's chest is very hard to forget. *"He's always had that" mom said; he's barely 2 years of age. He also has a bloated tummy but he's quite*

underweight. "He's eats all the time" his mother said; another C.F. symptom. He holds his arms stiff, straight and away from his body. His visual pattern reminds one of Stephen Hawkins: a brilliant mind within a non-cooperative body (Mackenzie, personal journal, August 28, 2009).

3. The Characteristics of Research Site: 3=Cozmos

‘Campo’ Cozmos was a rural mountain community about six miles off a main highway to another city that was much larger than the city where the health department was located. As we twice drove toward the Campo to our right was a lovely small dam and waterfall, the welcoming sign to what was to lie ahead. Both trips to that area found many large tree-lined dirt paths that wound around to the top of the highest point where the health clinic was located: above the preschool and primary school. This ‘campo’ also had a secondary school; an obvious sign of economic advancement. Residents enjoyed easier access than many other ‘campos’ to public transportation and health services; this site also had more natural water available than most. We were informed that coal was the main source of income; the men gathered and sold the natural resource. The patients were better informed than the majority of ‘campos’ and the observed children had fewer nutritional problems.

Note: The following comment was written after visiting Cozmos and meeting a mother whose five year old daughter had autistic symptoms, older women caring for grandchildren and other women equally as strong as them: *"I cry tears of honor because I have the privilege of now knowing every line on the face of the seemingly endless number of sisters of the abuela (grandmother) in the clinic, the size of her/their heart(s) and the strength of her/their spirit(s). I have dreamed of feeling the emotions of living the life I live now; I had no place in my imagination to realize that such fine, deserving people existed on this planet"* (Mackenzie, personal journal, August 21, 2009).

4. The Characteristics of Research Site: 4=Canyon

Twice this site was visited and yet neither of us was able to verbalize why this was the most neutral-feeling site we visited. People seemed to be locked into a glazed state of unawareness; the usual warmth outside the health clinic, so common within the other communities, was simply not present. The community was not obviously lower economically or more isolated, but the people seemed less cohesive.

Note: "*Something very strange was going on there; like stepping into another country, or a significant regional difference at any rate. All the other 'campos' were welcoming, waving, smiling and seemed pleased to have us as visitors; this place seemed like the people were in neutral. It was so very odd to have that happen on both visits to the site*" (Mackenzie, personal journal, August 27, 2009).

5. The Characteristics of Research Site: 5=Channel

This isolated mountain 'campo' was located about an eighty-minute ride from Creekside heading far north and much higher into the clouds, fog and very cool weather. The road was extremely winding and slow moving along it; but there was bus service as the winding highway was paved to within three miles of the clinic. There are few other 'campos' nearby this agricultural site; the cool weather kept mothers home. In two visits we saw only five infants. Mothers told us that most men are in the USA or other parts of Mexico working. The women had the opportunity to take a bus to a very large near-by resort where they could gain employment; this was explained to us with a great deal of pride. The area was very lush with trees, lots of creeks and far greener than other locations.

Note: The following comments were made after visiting Channel "*Our clinic visit Friday was to Channel, a tiny town quite a ways north of Stayrose and equally far up into the mountains. It had been raining all night, so it was very foggy as we drove the winding narrow roads to get us into that little town by 9AM. We looked at the map and realized that the one hour and forty-five minute trip there might make driving back through D.H. a shorter route for us and with fewer turns, so we took that option as we left Channel. Not only were it shorter and fewer turns, but also it was absolutely stunning! The fog had all burned off in the morning sun and the patch-work green pastures could be seen all over the rolling hill landscapes in all directions. It was breathe taking: so green and so very lush* (Mackenzie, personal journal, September 12, 2009).

6. The Characteristics of Research Site: 6=Ebony

Ebony was visited twice, once with the head of the department of health inside the city taking us there. It was a former mining 'campo' that was extremely high on the mountain and highly isolated; yet right above the city. The people were very warm and welcoming and the classes very well attended with twenty or thirty students each time. There was a very open, warm and noble attitude from the population; not as socially beaten as many other communities. We learned from a hitchhiker whom we gave a lift down the mountain that the local mining company provided a library and other social services to the community in addition to employment. This informant spoke with great pride about this positive input into his community.

Note: The following comments were made after visiting EBONY the first time and appreciating the enormous respect the staff from the main city health department was giving to us. We were treated as equals when in fact we were outsiders learning more from the residents of the 'campos' than we felt we had (at that time) to offer to them: *"Every minute my mind is spinning as I process other ways to help these fine people. I am throwing it all out there, asking in every direction for help and doing my very best to show a tiny fraction of the faith in others that I have in these women and their ability to face life with a smile on their faces and a diminutive young hand in their wrinkled and worn old ones"* (Mackenzie, personal journal, January 29, 2009).

7. The Characteristics of Research Site: 7=Gallup

Three times we visited this community center site; each time the center was filled with people of all ages who thanked us for coming to their isolated 'campo.' They bought food for all the visitors and for us; it was like a small fiesta. The site was about a thirty-seven mile trip from Creekside. Although the 'campo' was only about five miles from a major highway, it's a divided highway and no buses headed back toward the closest city. This single fact regarding bus service, they explained, highly limited their access to incomes as the area was very flat, dry and not good for growing. Many people complained that there are no medical services, few teachers arrived at the schools and although a very old 'campo,' they felt forgotten by the closest and their governing city. Mothers told us that most men were in the USA or other parts of Mexico working.

Note: The following comments were made in the afternoon after visiting Gallup: *"We learned that this town was founded about 80-90 years ago and did not ask for any public assistance until three years ago. Social service people came out once, but had not returned. There is no bus service so men cannot go into the city to work and mothers cannot get medical care for themselves and their children. The closest medical care is Last Retreat clinic a very unsafe and miles long walk along dirt roads, a 4-lane highway and more dirt roads; no sick child could ever make that trip. Since there are no buses, there is no way to get to medical care. The children all suffer with intestinal parasites, like everyone in (this state), and many have nutritional deficiencies. The parasite medicine and vitamins are free at the clinic, but inaccessible by these mothers. The teachers were described by the mothers as unmotivated, however further questioning revealed that there is one teacher for thirty-eight kindergarten students and no teacher's assistants. In*

the primary and secondary schools each teacher has seventy to ninety students; two complete classes each. This town is limited about who can teach here because there is no bus service. Most teachers in Mexico travel to schools by bus" (Mackenzie, personal journal, January 15, 2009).

8. The Characteristics of Research Site: 8=Last Retreat

The medical doctor, only one, who was like most not a resident of the town but simply traveled in by bus every day, was very proud of having a position in a town "280 years old" he boasted. The main source of income was agriculture and domestic livestock. This clinic over-looked lovely rolling hills and deeply green trees; unusual in a geographic area where most trees were sacrificed into the fires needed to extract silver or other mined ores. This 'campo' community seemed at least one state away from the other towns; filled with interesting churches, lots of shops and streets only wide enough for one horse-drawn carriage the steep angles of the roads was also charming. Few infants came to the clinic, but their 'campesino' caregivers were warm and welcoming. We had two occasions to visit this community health clinic.

Note: The following comments were made after visiting Last Retreat: "As I walk among these fine women, I am humbled to have the opportunity to offer them anything I have or can get for them. I am so totally in awe of the medical doctors, men and women, who work side-by-side with Jolene and me looking for ways to help the families and their children. *"Malnutrition is epidemic here and all over Mexico," the medical doctors said to me in Mineral de la Luz a week ago. I have already seen too much, more than a lifetime of children with dull stares, listless bodies, unresponsive faces and mothers who only want to give them the best life has to offer. I ask myself "Are others blind? Can't they see the simple need for vitamins? I cannot teach a child or a mother or even a grandmother until I can feed something nutritious to their mind and bodies!"* (Mackenzie, personal journal, September 9, 2009).

9. The Characteristics of Research Site: 9=Miners Haven

This isolated 450 year old mountain ‘campo’ was located about a 110 minute ride from Creekside heading far northwest and higher into the mountains than Creekside. The extensive unpaved dirt road was extremely winding; but there was bus service due to a religious attraction near-by. There were many other ‘campos’ nearby this mining site; this was the first mining site in the area. Both visits were well attended by caregivers and infants. Both doctors told of high levels of infant and childhood diseases likely due to mining chemicals. Mothers told us that most men found jobs in the near-by city and commuted back to their rural homes daily. The area was very dry and steep, but the buildings were beautiful and well maintained.

Note: On our second visit we wrote, "*This time there was a new intern; as we expected. They rarely stay in one rural community very long. The clinic was neater and better organized than it was the first time, there were far fewer people as we had experienced since the H1N1 flu scare in all locations. The delightful event was having two mothers rush into the primary school and bring us their daughters. The second girl was bright, no question, but the first one was one of the brightest 9 year olds I have ever observed. She was so very articulate, questioning, self-assured; the two women observing us observing her stated that "No one knows what to do with her, she knows what everyone in the family needs and is feeling even when they do not!"*" (Mackenzie, personal journal, September 9, 2009).

10. The Characteristics of Research Site: 10=Marvinside

Marvinside was the closest site to the city; nearly an urban site. Clearly the access to medical services was superior. There were three doctors on staff and many nurses. Each infant was seen one-on-one for infant stimulation not within a class structure; this was the only site where that occurred. Each infant was examined during the class; also the only site where that occurred. We were scheduled only once into this site, but the experience was very positive and welcoming.

Note: After the second Marvinside visit: "*There were three doctors, the most superior of them came to speak to us by barely stepping into the small room, about twelve feet square, that Jolene and I shared with an infant, her caregiver, her sibling, her grandmother, a nurse who was helping another doctor and two other patients. Privacy for 'campesino' patients has always appeared to be non-existent, but this visit made it more obvious*" (Mackenzie, personal journal, September 17, 2009).

11. The Characteristics of Research Site: 11=Nightshades

This 'campo' community center site, about a twenty-six mile trip from Creekside, was visited only once; the attendance was staggering. Mothers complained that bus service limited access to the medical clinic in a neighboring town; they welcomed any examination of their children. We were informed that public transportation access was a great limitation for attending school. Although the 'campo' was only about half mile from a major highway to get to middle school or high school required a nearly three hours riding buses; from 6am to 5pm. This situation also affected teachers; there had been only one preschool class for an entire year not the three they expected to have in this large 'campo.' The economy appeared to be more stable and prosperous than more isolated 'campos,' but not as fulfilled as some of them. Access to public transportation was a major issue in this campo. Mothers told us that most men were living in the 'campo' having found jobs in the city but spending too much time on the bus getting to work.

Note: "An elderly woman, in the front row of the group, came up to me after I examined about thirty children and said kind, sincere words that my ears and brains did not fully comprehend, but my heart and spirit were both so full as to overflow with compassion for her and an understanding of the depth of her needs; her gratitude. With every grant I write I think of her and many others like her whom I meet every week. They are made from the essence of everything on this

planet that is the finest blend of pure love. They touch their children and grandchildren with rough work-worn hands capable of the most tender and caring touch imaginable because it is a touch that originates from that pure love" (Mackenzie, personal journal, February 19, 2009).

12. The Characteristics of Research Site: 12=Puddle

The rural clinic visited most often was the site closest to Creekside, about a twenty-minute drive over very rough unmaintained dirt roads; no access during heavy rains. This site was the office of our local medical doctor, Lidia Rios Villalpando (real name used by request), who was the first to suggest this research project and who introduced us to many others medical personnel. We visited this site twenty or more times as we were scheduled to come every Friday and other times as well. It was closer to the city than our home.

Note: A visitor: *"Daniel took in the quality of the homes and yards as we passed them. He saw the playground equipment that now lays idle due to political issues when in the past there were almost always children using it. It breaks my heart to see the changes, no way to use that valuable equipment now; Daniel was right there emotionally too. He saw adults, teens and children waving back at us as we passed them. And he observed skinny animals, so many skinny domestic animals"* (Mackenzie, personal journal, January 25, 2009).

13. The Characteristics of Research Site: 13=Saddleland

This community was on either side of the main highway passing between two neighboring cities. Both cities are large and popular places; at first glance it seemed odd how the highway ran right through the center of this ‘campo,’ however closer examination explained the benefits. The health clinic was right on that very busy highway. We visited this site three times. The mothers stated that they were surprised we did not offer them free physical items to take home; no other site suggested we bring gratis items to those attending classes. Our sense was that this although was a rural ‘campo,’ the residents had access to more visiting wealth than the isolated ‘campos’ we usually visited. Both sides of the long highway surrounded by ‘campo’ were lined with vendors; visible everywhere people buying the wares. The early stimulation classes were moderately well attended by local people, but those from isolated ‘campos’ made the extra effort to get there. The medical staff was abundant and friendly; they also appeared to have extensive knowledge in how to handle any situation in that busy ‘campo’ where the clinic was a central focus of the community.

Note: "Yesterday was our second visit to Saddleland. At both visits the mother of a nine-year old girl who was a victim of severe C.P. joined us. The child is nearly as long as the mother, yet flaccid. There is no sign in the girl of any connection to the outside world and yet the mother continues to approach each day with a heart open to possibilities of a cure; her tender look and touch is awe-inspiring" Mackenzie, personal journal, August, 21, 2009).

14. The Characteristics of Research Site: 14=Sunjumper

Our relationship to this 'campo's' medical staff was more extensive since this staff also worked at two outlying community center sites. The main 'campo' medical clinic site was located about a thirty-mile trip from Creekside, this site was visited four times. Each visit the clinic was filled with those coming to the infant stimulation class. The 'campo' was about one half mile from a major highway and had preschool, elementary school, middle school, and high school; also buses went toward and back from the closest city. The economy appeared to be more stable and prosperous. Access to public transportation was a major plus for the 'campo' the medical staff informed us. The medical services always had two doctors and three very capable nurses; the clinic was well maintained. Mothers told us that most men were in the 'campo' having found jobs not far from home in the city closest to Creekside.

Note: "Dr. Posita, who we met at her medical clinic in Sunjumper, asked us to take to a pueblo where there was great need about a twenty- minute drive from her clinic. We had visited two homes and three teenagers who had severe disabilities on our late trip to see Dr. Posita; what were we so see now? She explained that there was no medical facility, the people were very anxious for assistance and they are very agreeable people. Dr. Rose is clearly prone to understatement. Jolene and I ended the day knowing why we are volunteering in Mexico and totally emotionally drained but driven to return to all of these villages to help in any way possible" (Mackenzie, personal journal, August 11, 2009).

15. The Characteristics of Research Site: 15=Stayrose

Nearly totally lined with trees, this area might be thought of as wet and more tropical, but actually all domestic animal or agricultural water had to be trucked into the community. An isolated mountain ‘campo,’ Stayrose was located about a seventy-five minute ride from Creekside heading far north and much higher into the clouds, fog and very cool weather; snow is often seen there. The road was extremely winding and slow moving, but bus service passed right into and out of the town to many near-by cities where work was available. The health clinic we first visited there was next door to an old tuberculosis sanitarium; that location was moved to an even more isolated spot. The second spot was so isolated that even two hours after our scheduled class time, no one had arrived to open the clinic; adult people were waiting all over for health services.

Note: In answer to why do Jolene and I continue to travel to these clinics and serve ‘campesino’s’: *"Last night in barely any natural light, several new faces were among the ‘campesino’ students at the English classes we offered. The early dark nights and excessive rain has chased away all the babies now (under 8 years) but the older ones are still coming out. A horrid storm was coming into the area, but the students stayed riveted to Jolene's every word even looking at the dimly lit white board. I finally got both cars next to the building and we two drove all the kids home"* (Mackenzie, personal journal, September 16, 2009).

16. The Characteristics of Research Site: 16=Trayville

This site was my second closest site to the city. It was closer to an urban site as access to medical services was improved; there were two doctors on staff and three or four nurses. The early stimulation classes were very well attended; about twenty-five to thirty infants or children each time. We received an extremely warm welcome at this site by all the professionals there; the lead doctor spoke to the entire group at once; the only time that occurred. We visited this site twice.

Note: "It matters little how much time passes since I first met the lead doctor, when he introduced Jolene and I to a room filled with women and spoke of us like we were his equal. I knew why I had chosen to spend the rest of my teaching career in Mexico. There is unlikely a single doctor in the USA who would acknowledge a teacher as having much value, certainly not equal to a medical (God) doctor" (Mackenzie, Personal journal, August 13, 2009).

17. The Characteristics of Research Site: 17=Yatten

This was the third closest site to the city. However, the health clinic itself was not like an urban site because it was very high above the city and extremely difficult to reach by car; most people walked to this clinic. It is unlike others in that it is not near any public schools and there were no natural resources or land for agricultural projects, but it was a place where other communities came to sell what they have grown. Here we saw many vehicle mechanics, feed stores, restaurants (most of the communities have no place to eat other than buying a bag of chips out of someone's home window). The buses run frequently into the city or to the bus station; transportation is not a problem. There was only one doctor in the clinic, like far more rural sites. Very few people attended the early stimulation classes, usually only ten or twelve infants or children each time. We visited this site twice.

Note: Due to this research opportunity *"We have access to many children of all ages every day who are very anxious to read and who are open to being our "beta testers;" they are so very respectful! Three days a week we volunteer in very rural health departments and teach young illiterate mothers how to stimulate their babies. We see some darling children do precious things. We live in a rural community where our neighbors live in third-world conditions. We are all three helping to create a community center to help these amazing people"* (Mackenzie, personal journal. March 24, 2009).

18. The Characteristics of Research Site: 18=Zorro

Community Zorro was far by car, about thirty-five miles away, but visible by the naked eye from Creekside across the lake and the dam. The community was very well laid out, nice wide dirt roads, friendly people and well-kept schools, but horrid communication. We visited the 'campo' health clinic classes on two occasions but were scheduled to visit the class four times. The first visit we were told to arrive an hour after the scheduled class began, the second time they were not told we were coming and no class was scheduled, the third time the class was scheduled but we were not informed and therefore did not arrive and the fourth time they were not told we were coming and no class was scheduled. Like all the other 'campo' clinics, they had no phone and no Internet access for communication. This community had bus service to the main city however we learned from a preschool teacher whom we gave a ride home into Marvinside that her travel time exceeded her total working period; she traveled two hours each way to work a total of three hours. Like so many others we met, she was looking for a second job or a position after mandatory retirement.

Note: "We left the way we came but drove to the edge of town to see if our house was visible from there. We spoke to a man on a burro, he assured us that the road to "the Well" was not a real road and he would not advise us to try to travel there in a car. "Get a horse!" I said to him and he laughed. At the edge of town we picked up Martha Venlezuela, a kinder teacher, who left her home in Marvinside at 7am each day and returned about 2pm because she hitched a ride

every day. She said her working hours were 9AM to 12PM for kinder. She retires in December" (Mackenzie, personal journal, January 12, 2009).

APPENDIX E – CATEGORIES DEFINED: CAREGIVER QUESTIONNAIRE**In Age Group 1**

(1-60 days) questions fell into the following categories: (1) gross motor skills (Gross), (2) fine motor skills (Fine), (3) free leg movement (Legs), (4) evaluation of vision (Vision), (5) evaluation of hearing (Hearing), (6) responding to caregivers voice (Voice), (7) response to light (Light), (8) social interaction (Social), (9) degree of crying (Crying), (10) frequency of colic (Colic), (11) awareness of nutritional problems (Nutrition) and (12) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 2

(61-182 days) questions fell into the following categories: (1) gross motor skills (Gross), (2) fine motor skills (Fine), (3) free leg movement (Legs), (4) evaluation of vision (Vision), (5) evaluation of hearing (Hearing), (6) attempts to raise own head (Head-up), (7) is willing to lie on stomach and look up (Lies), (8) is beginning to scoot, creep or crawl (Crawls), (9) is aware of surroundings (Alert), (10) reaches out for breast or bottle (Reach), (11) response to light (Light), (12) social interaction (Social), (13) emotionally withdrawn (Dull) (14) degree of crying (Crying), (15) frequency of colic (Colic), (16) awareness of nutritional problems (Nutrition) and (17) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 3

(183-365 days or 2-6 months) questions fell into the following categories: (1) is willing to lie on stomach and look up (Lies), (2) is beginning to scoot, creep or crawl (Crawls), (3) evaluation of vision (Vision), (4) evaluation of hearing (Hearing), (5) is aware of surroundings (Alert), (6) social interaction (Social), (7) recognizes family members on sight (Recall), (8) emotionally withdrawn (Dull), (9) degree of crying (Crying), (10) frequency of colic (Colic), (11) awareness of nutritional problems (Nutrition), (12) reaches out for breast or bottle (Reach), (13) able to hold a toy in either hand (Hold), (14) is trying to self-feed (Feed), (15) knows the difference between a donkey and a dog (Animals), (16) knows the color red or yellow (Colors), (17) can count 1-2-3 (Count), (18) can say three words (Speech) and (19) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 4

(366-547 days or 12–18 months) questions fell into the following categories: (1) is beginning to scoot, creep or crawl (Crawls), (2) evaluation of vision (Vision), (3) evaluation of hearing (Hearing), (4) is aware of surroundings (Alert), (5) is trying to self-feed (Feed), (6) takes semi-solid foods and swallows (Swallow), (7) recognizes family members on sight (Recall), (8) is timid or shy (Shy), (9) fears absence from mother (Afraid), (10) is angrier than others of same age (Angry), (11) emotionally withdrawn (Dull), (12) degree of crying (Crying), (13) frequency of colic (Colic), (14) awareness of nutritional problems (Nutrition), (15) helps to dress self (Dress), (16) asks for certain food, activities or toys (Ask), (17) walks

on their own (Walk), (18) can say a sentence or a phrase (Phrase), (19) can count to five (Count), (20) can say at least fifteen words (Speech), (21) knows the color red or yellow or more (Colors), and (22) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 5

(548-730 days or 18–24 months) questions fell into the following categories: (1) walks on their own (Walk), (2) grasps food, toys, animals easily (Grasps), (3) writes, colors or draws (Writes), (4) mimics others (Mimics), (5) a variety of facial expression and responses (Express), (6) evaluation of hearing (Hearing), (7) is timid or shy (Shy), (8) fears absence from mother (Afraid), (9) is angrier than others of same age (Angry), (10) emotionally withdrawn (Dull), (11) degree of crying (Crying), (12) frequency of colic (Colic), (13) awareness of nutritional problems (Nutrition), (14) always on the go, short attention (BusyBusy), (15) overly upset due to change (Anxious), (16) speaks a variety of words clearly (Speech), (17) can count to ten (Count), (18) knows the colors red, yellow, blue and green (Colors), and (19) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 6

(731-1095 days or 24-36 months) questions fell into the following categories: (1) sits balanced on a dog, goat or horse (Balance), (2) can climb a tree, stairs or haystack (Climb), (3) can stack c, rocks or toys and balance (Stack), (4) mimics others (Mimics), (5) a variety of facial expression and responses (Express), (6) is

able to feed self (Feed), (7) is timid or shy (Shy), (8) fears absence from mother (Afraid), (9) is angrier than others of same age (Angry), (10) emotionally withdrawn (Dull), (11) degree of crying (Crying), (12) frequency of colic (Colic), (13) awareness of nutritional problems (Nutrition), (14) always on the go, short attention (BusyBusy), (15) overly upset due to change (Anxious), (16) writes, colors or draws (Writes), (16) speaks of self as "I" and uses ten or more words (Speech), (17) combines four or five words to make a phrase (Phrase), (18) matches two or three primary colors (Matches) and (19) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 7

(1096-1460 days or 36-48 months) questions fell into the following categories: (1) sits balanced on a dog, goat or horse (Balance), (2) can hop forward two meters (Hops), (3) asks "Why," "What," "When," and "How" (Asks), (4) is able to dress self (Dresses), (5) is timid or shy (Shy), (6) fears absence from mother (Afraid), (7) is angrier than others of same age (Angry), (8) emotionally withdrawn (Dull), (9) degree of crying (Crying), (10) frequency of colic (Colic), (11) awareness of nutritional problems (Nutrition), (12) always on the go, short attention (BusyBusy), (13) overly upset due to change (Anxious), (14) responds to commands in normal tone (Obeys), (15) prefers companionship of other children (Friends), (16) plays well with others of same age (Peers), (17) plays well with others much younger (Leader), (18) asks to go to school (School), (19) writes, colors or draws well (Writes), (20) counts by memory to twenty (Counts) and (21) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 8

(1461-1825 days or 48-60 months) questions fell into the following categories: (1) moves rhythmically to music (Rhythm), (2) likes school and completes lessons (Lessons), (3) plays well with others of same age (Peers), (4) is timid or shy (Shy), (5) fears absence from mother (Afraid), (6) is angrier than others of same age (Angry), (7) emotionally withdrawn (Dull), (8) degree of crying (Crying), (9) frequency of colic (Colic), (10) awareness of nutritional problems (Nutrition), (11) always on the go, short attention (BusyBusy), (12) overly upset due to change (Anxious), (13) responds to commands in normal tone (Obeys), (14) prefers companionship of other children (Friends), (15) plays well with others much younger (Leader), (16) copies symbols and letters (Copies), (17) speaks fluently (Speech), (18) gives name, address and phone (Identity), (19) enjoys hearing and acting out stories (Stories), (20) names at least four colors (Colors), (21) writes, colors or draws well (Writes), (22) has special education needs (SPED) and (23) known exceptionalities (Exp.) with the final question being open-ended.

In Age Group 9

(1826 or more or over 60 months) questions fell into the following categories: (1) moves rhythmically to music (Rhythm), (2) likes school and completes lessons (Lessons), (3) plays well with others of same age (Peers), (4) is timid or shy (Shy), (5) fears absence from mother (Afraid), (6) is angrier than others of same age (Angry), (7) emotionally withdrawn (Dull), (8) degree of crying (Crying), (9) frequency of colic (Colic), (10) awareness of nutritional problems (Nutrition),

(11) always on the go, short attention (BusyBusy), (12) overly upset due to change (Anxious), (13) responds to commands in normal tone (Obeys), (14) prefers companionship of other children (Friends), (15) plays well with others much younger (Leader), (16) copies symbols and letters (Copies), (17) speaks fluently (Speech), (18) gives name, address and phone (Identity), (19) enjoys hearing and acting out stories (Stories), (20) names at least four colors (Colors), (21) understands adding, logic (Series), (22) writes, colors or draws well (Writes), (23) has special education needs (SPED) and (24) known exceptionalities (Exp.) with the final question being open-ended.

APPENDIX F – QUESTIONNAIRE DATA BY AGE GROUP

In Age Group 1

(1-60 days) questions percentages of *exceptionalities* were found in the following categories: (1) problems with gross motor skills (3.9%), (2) problems with fine motor skills (6.1%), (3) problems with free leg movement (8.0%), (4) problems with evaluation of vision (20.4%), (5) problems with evaluation of hearing (8.2%), (6) does not respond to caregiver's voice (12.0%), (7) does not respond to light (18.0%), (8) lacks appropriate social interaction (12.2%), (9) has a high degree of crying (20.8%), (10) suffers frequently from colic (29.2%), (11) there is an awareness of nutritional problems (29.2%) and (12) does have known exceptionalities (29.4%) with the final question being open-ended.

Note: Questions 9, 10, 11, and 12 highlight health challenges identified.

In Age Group 2

(61-182 days or 6-12 months) percentages of *exceptionalities* were found in the following categories: (1) problems with gross motor skills (.7%), (2) problems with fine motor skills (1.5%), (3) problems with free leg movement (4.5%), (4) problems with evaluation of vision (3.0%), (5) problems with evaluation of hearing (4.5%), (6) does not attempt to raise own head (10.4%), (7) is not willing to lie on stomach and look up (42.9%), (8) is not beginning to scoot, creep or crawl (65.7%), (9) is not aware of surroundings (17.9%), (10) does not reach out for breast or bottle (1.5%), (11) problems with response to light (4.5%), (12) lacks social interaction (13.5%), (13) is emotionally withdrawn (14.2%), (14) has

a high degree of crying (17.4%), (15) suffers frequently from colic (20.5%), (16) there is an awareness of nutritional problems (24.8%) and (17) there are known exceptionalities (36.2%) with the final question being open-ended.

Note: Observations of loss of hair on the back of two to six month old infant's heads was a sign that most infants were secured for extended periods of time in face-up positions. 'Campesino' infants expressed fearful responses to being laid on their stomach (42.9%) and not attempting to scoot, creep or crawl by 65.7% of infants was a symptom of that position not being a normal option for two to six month old 'campesino' infants. Additionally, questions 13, 14, 15, and 16 highlight health challenges most likely related to nutrition; the percentages of other health concerns, 36.2%, was notable for two to six month old infants.

In Age Group 3

(183-365 days or 6-12 months) percentages of *exceptionalities* were found in the following categories: (1) is not willing to lie on stomach and look up (22.0%), (2) is not beginning to scoot, creep or crawl (47.2%), (3) problems with evaluation of vision (0.0%), (4) problems with evaluation of hearing (0.8%), (5) is not aware of surroundings (5.5%), (6) lacks social interaction (1.6%), (7) does not recognize family members on sight (1.6%), (8) is emotionally withdrawn (15.7%), (9) has a high degree of crying (18.1%), (10) suffers frequently from colic (16.5%), (11) there is an awareness of nutritional problems (37.0%), (12) does not reach out for breast or bottle (3.1%), (13) is not able to hold a toy in either hand (3.1%), (14) is not trying to self-feed (18.1%), (15) does not know the difference between a

donkey and a dog (92.9%), (16) does not know the color red or yellow (99.2%), (17) can not count 1-2-3 (99.2%), (18) can not say three words (85.0%) and (19) there are known exceptionalities (45.7%) with the final question being open-ended.

Note: Given the opportunity to do so, 90 percent of infants crawl by the age of seven months (Berk, 2004). Nearly half of these six month to twelve month old infants did not attempt to scoot, creep or crawl: 47.2%. Again, questions 8, 9, 10, and 11 pinpointed health challenges most likely related to nutrition. The fact that caregivers reported that 92.2% of the infants did not know the difference between a donkey and a dog, 99.2% did not know red or yellow, did not count to three and 85.0% could not say three words reflects the mothers as unlikely assuming the role of teacher. The percentages of other health concerns, at 45.7%, were extreme for six to twelve month old infants.

In Age Group 4

(366-547 days or 12–18 months) percentages of *exceptionalities* were found in the following categories: (1) is not beginning to scoot, creep or crawl (56.1%), (2) problems with evaluation of vision (3.0%), (3) problems with evaluation of hearing (1.5%), (4) is not aware of surroundings (7.6%), (5) is not trying to self-feed (16.7%), (6) does not take semi-solid foods and swallow (1.5%), (7) does not recognize family members on sight (1.5%), (8) is timid or shy (65.2%), (9) fears absence from mother (33.3%), (10) is angrier than others of same age (33.3%), (11) is emotionally withdrawn (15.2%), (12) has a high degree of crying (27.0%),

(13) suffers frequently from colic (41.5%), (14) there is an awareness of nutritional problems (43.1%), (15) does not help to dress self (65.2%), (16) does not ask for certain food, activities or toys (18.2%), (17) does not walk on their own (39.4%), (18) cannot say a sentence or a phrase (75.8%), (19) cannot count to five (97.0%), (20) cannot say at least fifteen words (92.4%), (21) does not know the color red or yellow or more (93.9%), and (22) there are known exceptionalities (71.6%) with the final question being open-ended.

Note: Given the opportunity to do so, 90 percent of infants crawl by the age of seven months (Berk, 2004). Over half of the twelve month to eighteen month old infants did not attempt to scoot, creep or crawl: 56.1%. In more developed countries, finding 65.2% of the infants aged twelve month to eighteen month being shy or timid would be unexpected since infants are typically spoken to by all adults and given a great deal of attention with eye contact. In this study it was found that ‘campesino’ mothers do not typically talk to their infants, not to look into their faces frequently; social exchanges with pre-verbal infants was not usual. Medical personnel affirmed that a major part of the health clinic's early stimulation class was to encourage the mothers to talk to their infants and otherwise interact with them because do so was not the norm and yet the infants needed that social stimulation. Medical personal stated that average care-giving activities by ‘campesino’ caregivers with infants did not include talking to them, stimulating their interest, teaching them (65.2% have likely not been encouraged to help dress themselves) or looking into

their eyes (recall that 65.2% are shy and 33.3% fear absence from their mother). As in the previous age groups, questions 11, 12, 13, and 14 pinpoint health challenges most likely related to nutrition. The fact that ‘campesino’ caregivers reported that 93.9% of the infants did not know red or yellow, 97.0% did not count to five and 75.8% could not say a sentence or phrase reflects the mothers as unlikely assuming the role of teacher. The percentages of other health concerns, at 71.6%, were extreme for twelve to eighteen month old infants.

In Age Group 5

(548-730 days or 18–24 months) percentages of *exceptionalities* were found in the following categories: (1) does not walk on their own (21.1%), (2) does not grasp food, toys, animals easily (2.5%), (3) does not write, color or draw (17.5%), (4) does not mimic others (10.3%), (5) does not exhibit a variety of facial expression and responses (5.3%), (6) problems with evaluation of hearing (5.3%), (7) is timid or shy (34.2%), (8) fears absence from mother (26.3%), (9) is angrier than others of same age (36.8%), (10) is emotionally withdrawn (36.8%), (11) has a high degree of crying (34.2%), (12) suffers frequently from colic (59.0%), (13) there is an awareness of nutritional problems (55.3%), (14) is always on the go, has a short attention span (36.8%), (15) is overly upset due to change (42.1%), (16) does not speak a variety of words clearly (84.2%), (17) cannot count to ten (100%), (18) does not know the colors red, yellow, blue and green (100%), and (19) there are known exceptionalities (87.5%) with the final question being open-ended.

Note: My thoughts on ‘campesino’ lifestyles state that learning was accomplished by observation, then, mimicking what was viewed using trial and error. The fact that all but 10.3% of the eighteen to twenty-four month old infants mimic, that only 5.3% lack a variety of facial expressions which occurs when infants are raised in an interdependent environment. In more developed countries, finding 65.2% of the infants aged twelve month to eighteen month being shy or timid would be unexpected since infants are typically spoken to by all adults and given a great deal of attention with eye contact. In this study it was found that ‘campesino’ mothers do not typically talk to their infants, to not look into their faces frequently; social exchanges with pre-verbal infants was not usual. Medical personnel affirmed that a major part of the health clinic's early stimulation class was to encourage the mothers to talk to their infants and otherwise interact with them. Medical personal stated that average care-giving activities by ‘campesino’ caregivers with infants did not include talking to them, stimulating their interest, teaching them (65.2% have likely not been encouraged to help dress themselves) or looking into their eyes (recall that 65.2% are shy and 33.3% fear absence from their mother). As in the previous age groups, questions 10, 11, 12, and 13 pinpoint health challenges most likely related to nutrition. The fact that caregivers reported that 100% of the infants did not know red, yellow, blue and green, 100% did not count to ten and 84.2% could not use a variety of words reflects the mothers as unlikely assuming the role of

teacher. The percentages of other health concerns, at 87.5%, were extreme for eighteen to twenty-four month old infants.

In Age Group 6

(731-1095 days or 24-36 months) percentages of *exceptionalities* were found in the following categories: (1) cannot sit balanced on a dog, goat or horse (4.3%), (2) cannot climb a tree, stairs or haystack (12.8%), (3) cannot stack, rocks or toys and balance (2.1%), (4) cannot mimic others (0.0%), (5) does not have a variety of facial expression and responses (4.3%), (6) is unable to feed self (21.3%), (7) is timid or shy (19.1%), (8) fears absence from mother (21.3%), (9) is angrier than others of same age (34.0%), (10) is emotionally withdrawn (31.9%), (11) has a high degree of crying (19.1%), (12) suffers frequently from colic (29.8%), (13) there is an awareness of nutritional problems (29.8%), (14) is always on the go, short attention (38.3%), (15) becomes overly upset due to change (36.2%), (16) cannot write, color or draw (34.0%), (16) does not speak of self as "I" and does not use ten or more words (85.4%), (17) does not combine four or five words to make a phrase (91.7%), (18) cannot match two or three primary colors (95.7%) and (19) there are known exceptionalities (69.4%) with the final question being open-ended.

Note: The fact 100% of the twenty-four to thirty-six month old infants mimic, supports my thoughts on the 'campesino' lifestyle; only 4.3% lack a variety of facial expressions. As in the previous age groups, questions 10, 11, 12, and 13 pinpoint health challenges most likely related to nutrition. The fact that caregivers reported that 34.0% of the infants did not write, color or draw, 95.7% did not match two or three primary colors, 85.4% did not speak of themselves as "I" and 91.7% could not combine four or five words reflects the mothers as unlikely assuming the role of

teacher. The percentages of other health concerns, at 69.4%, were extreme for twenty-four to thirty-six month old infants.

In Age Group 7

(1096-1460 days or 36-48 months) percentages of *exceptionalities* were found in the following categories: (1) is unable to sit balanced on a dog, goat or horse (4.1%), (2) cannot hop forward two meters (6.4%), (3) does not ask "Why," "What," "When," and "How" (12.5%), (4) is unable to dress self (31.9%), (5) is timid or shy (28.6%), (6) fears absence from mother (27.1%), (7) is angrier than others of same age (31.9%), (8) is emotionally withdrawn (17.0%), (9) has a high degree of crying (17.0%), (10) suffers frequently from colic (21.3%), (11) there is an awareness of nutritional problems (34.0%), (12) is always on the go, has a short attention span (29.2%), (13) becomes overly upset due to change (29.2%), (14) does not respond to commands in normal tone (14.6%), (15) does not prefer the companionship of other children (12.5%), (16) does not play well with others of same age (16.7%), (17) does not play well with others much younger (19.1%), (18) does not ask to go to school (10.6%), (19) cannot write, color or draw well (19.1%), (20) cannot count by memory to twenty (85.4%) and (21) there are known exceptionalities (57.1%) with the final question being open-ended.

Note: The fact 100% of the twenty-four to thirty-six month old infants will mimic others supports my thoughts on the 'campesino' lifestyle; only 4.3% lacked a variety of facial expressions that would be common in an interdependent environment. As in the previous age groups, questions 8, 9, 10, and 11 pinpoint health challenges most likely related to nutrition. T

he fact that caregivers reported that 34.0% of the infants did not write, color or draw, 95.7% did not match two or three primary colors, 85.4% do not speak of themselves as "I" and 91.7% could not combine four or five words reflects the mothers as unlikely assuming the role of teacher. The percentages of other health concerns, at 57.1%, were extreme for thirty-six to forty-eight month old infants.

In Age Group 8

(1461-1825 days or 48-60 months) percentages of *exceptionalities* were found in the following categories: (1) does not move rhythmically to music (15.9%), (2) does not like school and complete lessons (18.2%), (3) does not ask to go to school (9.3%), (4) does not play well with others of same age (11.6%), (5) is timid or shy (16.3%), (6) fears absence from mother (18.6%), (7) is angrier than others of same age (29.5%), (8) is emotionally withdrawn (31.8%), (9) has a high degree of crying (25.0%), (10) suffers frequently from colic (18.2%), (11) there is an awareness of nutritional problems (11.4%), (12) is always on the go, short attention (34.1%), (13) gets overly upset due to change (25.6%), (14) does not respond to commands in normal tone (14.0%), (15) does not prefer companionship of other children (16.3%), (16) does not play well with others much younger (16.7%), (17) does not copy symbols and letters(11.6%), (18) does not speaks fluently (60.5%), (19) is unable to give name, address and phone (55.8%), (20) does not enjoy hearing and acting out stories (32.6%), (21) is unable to name at least four colors (46.5%), (22) does not write, color or draw well (46.5%), (23) identified as having special education needs (32.6%) and (24) does have known exceptionalities (65.9%) with the final question being open-ended.

Note: At this age group the percentages of children who liked school and completed lessons (91.8%) and asked to go to school (90.7%) contributed to the theory that all child want to learn (Berk, 2004)). The fact that 55.8% did not know their name, address and phone, 46.5% did not know at least four colors, 46.5% did not write, color or draw well supported the statement that the ‘campesino’ mothers were not likely assuming the role of teacher. Mirroring the outcomes in previous age groups, questions 8, 9, 10, and 11 pinpoint health challenges most likely related to nutrition. The final percentages of 65.9% known exceptionalities were extreme for forty-eight to sixty month old infants.

In Age Group 9

(1826 or more or over 60 months) percentages of *exceptionalities* were found in the following categories:(1) does not move rhythmically to music (1.4%), (2) does not like school and complete lessons (30.0%), (3) does not ask to go to school (20.3%), (4) does not play well with others of same age (14.5%), (5) is timid or shy (21.7%), (6) fears absence from mother (21.4%), (7) is angrier than others of same age suffers frequently from colic (19.7%), (11) there is an awareness of nutritional problems (39.4%),(12) is always on the go, short attention (31.0%), (13) gets overly upset due to change (29.6%), (14) does not respond to commands in normal tone (18.3%), (15) does not prefer companionship of other children (26.8%), (16) does not plays well with others much younger (18.3%), (17) does not copy symbols and letters (26.8%), (18) does not speak fluently (35.2%), (19) is unable to give name, address and phone (50.7%), (20) does not enjoy hearing

and acting out stories (23.9%), (21) does not understand adding, logic (70.4%),(22) does not write, color or draw well (71.6%), and (23) does have known exceptionalities (91.7%) with the final question being open-ended.

Note: At this age group the percentages of liked school and completed lessons (91.8%) and asked to go to school (90.7%) contributed to the theory that all children want to learn (Berk, 2004). The fact that 55.8% did not know their name, address and phone, 46.5% did not know at least four colors, 46.5% did not write, color or draw well supported the statement that the ‘campesino’ mothers were not likely assuming the role of teacher. Mirroring the outcomes in previous age groups, questions 8, 9, 10, and 11 pinpoint health challenges most likely related to nutrition. The final percentages of 91.7% of known exceptionalities in sixty month old and older aged youth indicates that most of these children were examined, at parental request, due to having already identified special educational needs.

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