EDUCATION FOR ALL?: GIRLS' ACCESS AND RETENTION IN GUATEMALAN PRIMARY SCHOOLS

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A Thesis

Submitted to the Graduate College of Bowling Green State University in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

August 2009

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The Guatemalan Ministry of Education reports that 95% of the primary school age population attends school (Ministerio de Educación Guatemala [MINEDUC], 2008a). Working to meet the Education for All goal of all children attending primary school by 2015 (MINEDUC, 2007; UNESCO, 2007) it appears the country is on the right track. However, this high primary school enrollment is deceiving. Within the primary school, girls have many barriers to receiving a complete primary school education.

This thesis looks at the effect of urban and rural location on girls’ primary school enrollment, the differences in girls’ initial and final enrollments in primary school, and the comparison between girls and boys’ primary school enrollments, in order to determine the extent to which Guatemala will meet the international Education for All goal of all children, boys and girls, to attend and complete primary school by the year 2015. Data for this thesis are from the Guatemala Ministry of Education, and were used in single, independent, and related samples t-tests to calculate significance in population means. Data were selected from 1996 and 2007 in order to see how girls’ education access has changed over time.

The analysis results show that location of schools, retention, and gender are all significant issues in the primary education of girls. Girls in rural areas are less likely to attend school than girls in urban areas. There are fewer girls that attend primary school than boys, and when girls do have initial access to school, there is not a guarantee that they will complete their education. Thus, Guatemala is not making adequate progress to have all girls attend primary school by 2015 in order to meet Education for All goals.
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Dedicated to the girls of Guatemala

Dedicado a las niñas de Guatemala
ACKNOWLEDGEMENTS

It with the great support and help of many people for my completion of this Master’s Thesis. First, I must thank my outstanding committee. Not only I was able to have Dr. Bruce Collet, Dr. Candace Archer, and Dr. Rachel Vannatta for class, where I was given the background to effectively write and analyze girls’ education in Guatemala; but I was also able to have their insights and expertise to evaluate and improve my thesis. Thank you. I am grateful to my advisor Dr. Collet, who guided me through the process with great patience, and offered valuable comments on my drafts and ideas.

My parents and sister have been tremendous during my writing. Mom and dad, thanks for only being a phone call or e-mail away to read over drafts, listen to me talk out my writer’s block, and provide motivation to just keep writing! Also, thank you for your unconditional support and love in all things. Lauren, what would I ever do without you? Your mad editing skills and our G-chats about statistics were such a help in this process.

I must also acknowledge my wonderful extended family and many friends, who were always asking about ‘the paper’, and would patiently listen to my verbose responses about what exactly was included in my thesis. My MACIE colleagues have been so encouraging and supportive of my writing; what a great groups of friends.

Muchas gracias a toda la gente, especialmente las niñas, de Guatemala. Yo tuve un buen tiempo en Quetzaltenango con los estudiantes de la escuela primaria y mi ‘familia de Guatemala’. Yo quiero visitar también en el futura.

Finally, I must acknowledge my wonderful God who has given me this opportunity. I am continually reminded of His love and grace. With the completion of this thesis, it is further ingrained in my mind that with God all things are possible!
CHAPTER I: INTRODUCTION

The Guatemalan Ministry of Education reports that 95% of the primary school age population attends school (MINEDUC, 2008a). Working to meet the Education for All goal of all children attending primary school by 2015 (MINEDUC, 2007; UNESCO, 2007) it appears the country is on the right track. However, this high primary school enrollment is deceiving. Of the children that finished the school year in 2007, more than half were boys. The difference between the male and female enrollments represents thousands of girls who are not in school. The World Bank has identified Guatemala as one of the top countries in Latin America where gender disparities are the highest in education (The World Bank, 2008). If Guatemala wants to have all children in primary school, thus meeting Education for All’s goal, there needs to be a greater understanding of factors influencing male and female student enrollment.

Educating girls is an investment in the long-term development of a nation. Save the Children (2005), states that:

Education empowers girls today and saves children’s lives tomorrow. The more time girls spend in school the more likely they are to grow up to be mothers who are healthy, well-nourished, economically empowered and resourceful when it comes to the health and education of their children. (p. 4)

Through the investment in girls’ education, there is an investment in future generations. The investment in girls offers the greatest potential return to investment because of the long-term social and economic benefits (Psacharopoulos & Patrinos, 2004). Psacharopoulos & Patrinos (2004) have found that social and economic returns to human capital investment in girls, are
indicators of change, but not panaceas. Nevertheless, any change needs to be beneficial for the present girls as well as girls in the future.

The benefits from human capital investment are promoted by supranational organizations supporting global education initiatives to send children, girls and boys, to school. One such program, Education for All (EFA), gained momentum in the mid-1990s when there was an international consensus that education was a means to help resolve inequality and poverty (Mundy, 2007). EFA is a global commitment that strives to ensure that all children have access to education (UNESCO, 2007). EFA outlines gender parity and equality, and primary school completion as two of the six main goals of its initiative.

Education enrollment is two-tiered, with access to education as the first tier, and retention in schooling as the second. ‘Access to’ education involves getting a student in the school. ‘Retention’ is making sure the student stays and completes their schooling (Filmer, Hasan, & Prichett, 2006).

Globally, there are varying degrees to which countries meet EFA goals. In Latin America, girls’ education enrollment levels are diverse. Girls in many countries, such as Argentina, Ecuador, and Costa Rica have equal enrollment to boys’; and in some countries, such as Nicaragua, Peru, and Uruguay, girls’ enrollment even exceeds boys’ (Jáuregui, 2000; Stromquist, 2001; World Development Indicators, 2008). However, there are a few countries where girls’ enrollment in school is notably lower than boys’ enrollment. For example, boys in Mexico, make up over half of the primary school population, and represent the majority of students in higher education (World Development Indicators, 2008).
Rationale for Study

Guatemala is a country where gender disparities in formal education are visible (The World Bank, 2008). In 2007, male students made up 52.1 percent of the primary school population but were only 49 percent of the general population; girls, on the other hand, made up only 47.8 percent of the primary school population and yet constitute 51 percent of the general population of Guatemala (MINEDUC, 2007; World Development Indicators, 2008). Other Latin American countries do not face as great disparity; for example, Argentina and Peru have equal gender ratios in primary school World Development Indicators, 2008). An USAID officer states the situation in Guatemala; “Because of the polarization that exists on gender issues related to the discrimination of indigenous populations in Guatemala, girls’ educational issues must be framed as a social and economic question, not as an equality issue” (Stromquist, Klees, & Miske, 2000, p. 242). Equality through gender does not resonate with the society as much as an improvement on the quality of life; thus, girls’ education must allow for social and economic benefits that then promote gender equality.

Purpose of the Study

The purpose of this study is to look at girls’ primary education in Guatemala in both the private and public education sectors. Primary education is important because of the basic skills children learn and apply, such as literacy and numeracy (UNESCO, 2007). EFA goals aim to have every child receive at least a primary school education. At the state level in Guatemala, there is a mirroring of the importance of each child attending primary school. However, past studies have identified that not all children have the same opportunities to attend and complete primary school in Guatemala (Bustillo, 1993; Lloyd & Mensch, 1999; Stromquist et al., 2000; Provasnik et al., 2002; Chevigny, 2008). This study focuses particularly on girls’ education in
Guatemalan public and private primary schools, looking at the opportunity and access girls have to start school, and if girls are able to finish school once they have started.

With gender disparities in education access and retention in Guatemala, it is important to examine the depth of difference in enrollment. I organize this study around one main research question that is informed by three sub-questions, which address particular components of girls’ education in Guatemala:

- **Main Research Question:** *To what degree is Education for All (EFA) meeting its target goal of girls’ enrollment in primary education in Guatemala?*

  **Sub-Research Questions:**
  - *How does the rural versus urban location of schools affect girls’ primary school enrollment rates?*
  - *How do girls’ initial and final primary school enrollments compare?*
  - *How do the primary school enrollments of boys and girls compare?*

Each of these research questions is answered using primary school enrollment data from the Guatemalan Ministry of Education. The data represent formal schooling in Guatemala with both private and public schools included. The data is from 1994-2007. I use this data in a series of t-tests to address the research questions.

During the summer of 2008, I spent seven weeks in Guatemala completing an internship for my master’s degree program. While in Guatemala, I stayed with a local host family in Quetzaltenango, the second largest city. Quetzaltenango has a large indigenous population, which allowed me to daily see the interaction between traditional Mayan families and *Ladino* families. For my internship, I volunteered in a local public primary school, Manfredo L. Deleon, in Quetzaltenango. I worked with the school’s English teacher and spent the school day assisting
in teaching English to all of the classes in the school. The students ranged from ages four to 14 years old, in levels pre-school through sixth grade. While I did not collect any formal data while there, the experience of living in Guatemala, talking to ‘Guatemaltechos’ (Guatemalans), volunteering in a school, and overall gaining an insight to the culture has influenced how I understand education in Guatemala.

Limitations of the Study

There a couple of limitations to my study. The first limitation is that all of the data charts and information that explain the data are in Spanish. While I read Spanish proficiently, it is not my native language. As a result, I used translation tools, language dictionaries, and other Spanish speakers to help with certain passages. The second limitation is that I used preexisting data and therefore must accept the constraints of the given data set. The constraints are that I did not have control over the collection of the data, and thus am unable to report on representation of the data. However, the Ministry of Education states that all of the schools are accounted for in the data sets (MINEDUC, 2008a).
CHAPTER II: REVIEW OF LITERATURE

When examining the extent of girls’ access and retention in Guatemalan primary schools, it is necessary to gain familiarity with Guatemala and the research and reports that surround girls’ education. In this chapter, I first present an overview of Guatemala; the people, the culture, the history, and the school system. In the next section, I focus on the literature that surrounds Education for All and its global and local initiatives. In the final section, I look at the issues of girls’ education such as the barriers girls face in and outside of schools, and the potential returns to investment tied to educating girls.

Guatemala

Guatemala provides a unique setting to examine the effects of EFA, girls’ education, and human capital investment. The country is varied in language, customs, beliefs, and geography, and these differences create a vibrant and diverse culture. However, this same diversity has been a problem for the complete inclusion of all girls to enter and remain within the education system, because there is not one specific linguistic or cultural approach to education. Each element of the culture must be attended to if all children, specifically girls, are to complete primary school. It is thus essential to understand Guatemala in order to understand its role and status in the education of girls.

Demographics

Guatemala is located in Central America, and shares boarders with Mexico, Belize, Honduras, and El Salvador (see Figure 2.1). With a population over 13 million, it is the most populous country in Central America (Central Intelligence Agency [CIA], 2008). The ethnic break down of the population is 60 percent Ladino, a mixture of indigenous and Spanish decent, and 40 percent indigenous, mostly Mayan. Idiometrically, the population is aligned with the two
ethnic groups. Spanish is the first language of 60 percent of the population, and an indigenous language, such as K’iche’, is the first language for 40 percent of the country (CIA, 2008). Within the indigenous community, there are 23 officially recognized indigenous languages. The diversity of Guatemala’s languages has provided a challenge to educate all students in the country. The indigenous community has the lowest educational access and attainment of all Guatemalans (McEwan & Trowbridge, 2007).

Guatemala is a developing country; this is reflected by the distribution of wealth, make-up of the Gross Domestic Product (GDP), and the labor force. The top ten percent of the population has 43 percent of the wealth, demonstrating an unequal distribution. Additionally, around 56 percent of the population lives below the poverty line (CIA, 2008). Agriculture takes

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up about half of the labor force, but only makes up 13 percent of the GDP. More education of the population could move people from the agricultural sector to other sectors of commerce (industry and service) that are more profitable for Guatemala’s economy.

Country History

A brief review of the history of Guatemala is important for understanding the education system. Until September 15, 1821, Guatemala was a Spanish colony. After gaining its independence from Spain, the country went through violent changes of power (Short, 2007). Early civil wars, uprisings, and revolts were significant parts of Guatemala’s history after its independence from Spain. Tensions between the Liberals and Conservatives fueled the changes of power and political unrest in the 19th century. The 20th century starts with Guatemala lead by dictators. In the 1945, a new Constitution was adopted, but political struggles continued (Short, 2007).

The most significant part of the country’s recent history was the 36 year civil war that ended in 1996. The war started with guerilla opposition to government corruption, but as the conflict continued, it was fueled by the desire for equality in society. There was a focus on spreading and dividing wealth, equality for indigenous and non-indigenous peoples, and equal representation of women children in policies (Barry, 1989). While the desire for equality from the guerrillas seems admirable, the means to insure support were violent, with villages of people being killed if they would not assist the guerillas (Barry, 1989). The conflict look place in the rural mountainous parts of Guatemala, and had lasting effects on the indigenous populations that live in the region (Smith, 2001; Short, 2007). By the end of the civil war, 200,000 people were killed, a million were refugees, and 200,000 people were internally displaced (Smith, 2001). About a million Guatemalans were involved with the government side of the war (mainly at the
local level). Thus, of the total population at the time of 11 million, about one-fifth was directly affected by the civil war, and millions more affected by family connections (Smith, 2001).

Education during this time was a privilege (Barry, 1989). Schooling was available to families whose children did not have to work and could pay school tuition and expenses. During the war, Barry (1989) reported, “Among children ages 7 to 14, four out of every ten do not attend school. Of those who do attend, only 20 percent finish the sixth grade” (p. 85). Education was clearly not the priority of the government during the civil war.

The civil war ended with the development of the “Agreement on Social and Economic Aspects and Agrarian Situation” by the United Nations in collaboration with Guatemala (Short, 2007). The purpose of this document was to establish a lasting peace in Guatemala by detailing changes in government and social sectors. The agreement took a neoliberal approach to the economy, and a liberal one to social policy (Short, 2007).

Education was a significant part of the plan to renew Guatemala. Education, which was seemingly forgotten during the civil war, with the Agreement was at the front of social development for Guatemala (Short, 2007). The changes the Agreement pledges include increasing spending on education, adjusting the curriculum, creating occupational training programs, developing a civic education program, increasing community and school interaction, and expanding the coverage of education services at all levels (Short, 2007). The Agreement makes the particular pledge to increase access to education at the pre-primary and primary levels, and to support children to finish half of their primary education (Short, 2007). There is unfortunately no mention of gender equality in education in the peace Agreement. As related to my research interest, the Agreement’s support of children completing primary education aligns
with the initiative of Education for All to have all children complete primary school (UNESCO, 2007).

*State Education in Guatemala*

Since the civil war, the Guatemalan Ministry of Education has begun to take accountability for education in the country. By publicly reporting school enrollment data (which are used in this study), and developing programs for rural and indigenous students, the Ministry is demonstrating how it is working to be more accountable to the people. The Ministry has stated its mission is to be an organization that efficiently and effectively works for results in teaching and learning to a better Guatemala now and in the future (MINEDUC, 2007).

The Ministry has adapted the slogan, ‘*más y mejor educación*’ (more and better education) (MINEDUC, 2007). Printed on each page of the Ministry’s webpage in Spanish and K’iche’ (the most widely spoken indigenous language), the slogan relays the simple underlying goal of the Ministry; to provide students of Guatemala with more and better education. The Ministry identifies ‘more education’ as opportunities for more students to attend higher levels of schooling, to insure that both boys and girls attend school, to provide indigenous students schooling, and to provide equal opportunities for students to learn. Particular 2008-2012 education policies that address ‘more education’ are to expand education services available to poor students, and to increase bilingual education programs (MINEDUC, 2007). ‘Better education’, is seen as the quality of education students receive vis-à-vis the curriculum, language of instruction, and teacher training (MINEDU, 2007). Policies for ‘better education’ include new teaching materials, increased technology and accountability, and skills needed for the ‘*mundo globalizado*’ (globalized world).
One of the Ministry’s main programs is PRONADE (Programa Nacional de Autogestión para el Desarrollo Educativo, or ‘National Self Management Program for Education Development’). This program focuses on rural education and was developed to increase coverage, improve educational services, and increase community involvement (MINEDUC, 2008b). Within the PRONADE program, there is specific focus on including bilingual-intercultural education programs that provide instruction in Spanish and a Mayan language (Chevigny, 2008). The programs aim to have children be literate in both their own language and Spanish.

Human Capital Theory

In his 1998 Noble address, Amartya Sen (1999) stated that development occurs when people are able to live free of impediments on personal freedoms. His approach is to expand the capabilities of people by improving the conditions of their lives (Sen, 1999; Perkins, Radelet, & Lindauer, 2006). Sen looks at each individual that makes up a society as being a part of the change towards development. It is with investment in each individual - male, female, indigenous, non-indigenous, rich, or poor - that moves a society to development.

This investment in people is often referred to as human capital. Human capital may result in economic development and gains in quality of life for the larger population (Schultz, 1961). Theodore W. Schultz developed human capital theory, identifying direct expenditure on education and health as examples of investment in human capital. Skills and knowledge, instead of direct increases in income, are the resulting capital from human capital investment. When Shultz (1961) wrote on human capital investment, he found it concentrated in developed countries, “That this [human] capital is in substantial part a product of deliberate investment, that it has grown in Western societies at a much faster rate than conventional (nonhuman) capital, and
that its growth may well be the most distinctive feature of the economic system” (p. 1). Shultz points to developed countries as models where investment in human capital had a positive impact on local economics.

Shultz identifies human capital as an important part of economies, and the scope of human capital investment expands into many fields. Education is one field where human capital investment is discussed to support and develop education programs and initiatives worldwide (Schultz, 1961; Psacharopoulos & Patrinos, 2004). Schultz states that “formally organized education at the elementary, secondary, and high levels” (Schultz, 1961, p. 9) is one of the “more important activities to improve human capacities” (p. 8). Since Schultz (1961), global education levels have been on the rise. With greater education attainment, more countries are valuable participants in the global economy. Asia and Latin America are prime examples of how direct investment in education in the past 40 years has increased global economic standing today (Perkins, et al., 2006). As an economist, Schultz ultimately sees education as a path to development. However, beyond strictly economic development, many social benefits also enter the society when education levels are increased. This is particularly the case with educating girls.

Education for All (EFA)

In order to understand the effect EFA has had on Guatemala, one must understand the purpose, mission, and organizations involved in the global quest for every child to have access to education. The beginning of the movement toward the right to education can be seen as far back as the 1948 Universal Declaration on Human Rights (Mundy, 2007; UNESCO, 2008). Since this time, there have been various efforts lead by the United Nations (UN) organizations UNICEF (United Nation’s Children’s Fund) and UNESCO (United Nations Educational, Scientific and
Cultural Organization) to encourage universal education access. EFA is now the largest and the most recent of these efforts, and is in alliance with the UN Millennium Development Goals (MDGs). MDGs specify eight goals towards development addressing health, hunger, environment, global partnerships, gender equality, and universal education (UN, 2009). The MDGs for universal education is identical to the goal of EFA; namely, to ensure that by 2015, boys and girls will be able to complete a full course of primary schooling (UNESCO, 2007).

EFA was established in 1990 at the UN’s World Conference on Education for All, held in Jomtien, Thailand. The outcome of this conference was the goal to have global universal primary education (UPE) by the year 2000 (Mundy, 2007). Yet, after the 1990 Conference, the efforts for UPE were fragmented and underfunded. Projects were short term because of lack of funding and expertise available to the region (Mundy, 2007). These issues, and the mere fact that there were only ten years to reform education systems globally, resulted in the missed UPE global goal for the year 2000. To continue the effort towards EFA, MDGs added measurable targets, goals, and funding to make the dream of EFA a promising reality (Mundy, 2007).

The MDGs outline six main EFA goals: 1. Expanding and improving comprehensive early childhood care and education; 2. Ensuring that by 2015 all children have access to and complete, free and compulsory, quality primary education; 3. Meeting the learning needs of youth and adults; 4. Improving adult literacy by 50 percent by 2015; 5. Eliminating gender disparities by 2005 and achieving gender equality in education by 2015; and 6. Improvement of the quality of education (UNESCO, 2008). These goals are continuously assessed by national governments and non-governmental organizations, and UNESCO reports the results annually (UNESCO, 2007). The accountability component of these goals is important. The 2008 EFA Global Monitoring Report cites the progress of these goals, and gives examples of successful
programs and nations that are meeting and exceeding the EFA goals. There has been progress toward these goals, but there is still a long way for them to be universally achieved.

While EFA is moving forward education access, access for the direct benefit of the people is only part of the motivation driving the interest in education. As people receive more education, they have more opportunities for employment, are able to learn more about their rights, provide better health care to their children, and become more self-sufficient. Economic and social development are forces behind this interest. As Mundy (2007) states, “Education for All combines the ideas of liberalization, equality enhancement, guaranteed citizenship rights and effective governance central to the new consensus on international development” (p. 9). Educated people promote Guatemala’s status as a place of commerce with a skilled labor force, an effective government, and human rights. This aligns with the motives of human capital theory.

Supranational Organizations

Education for All promotes the belief that all students should have access to education, and it places particular emphasis on girls’ education. Other global organizations share EFA’s dedication to girls’ education, and have worked with them to increases girls’ education programs. UNESCO and USAID have been two of the largest supporters of girls’ education in Guatemala. Both have a strong presence at global conferences, where topics include the specific needs and challenges of educating girls. Out of these conferences, the groups develop programs to promote access to education, work to increase public funding for education, and outline research methodologies to design governmental policies that recognize gender perspectives (Jáuregui, 2000).
In addition to its contribution to girls’ education, UNESCO has done a significant amount of work with women’s literacy. In 2002, Guatemala had an adult women’s literacy rate (aged 15 and above) of 63 percent (World Development Indicators, 2008). This means that roughly 37 percent of women were still illiterate as of 2002. Most literacy programs focus on young women (ages 14-30) that did not finish school (Jáuregui, 2000). This group of women is an important demographic because they are or will be mothers, and literate mothers have the ability to improve their children’s health and education by reading and using new information (Save the Children, 2005).

Outside of the main multinational organizations, the United States based USAID (United States Agency for International Development) has developed and implemented many programs targeting girls’ education in Guatemala (Stromquist et al., 2000; Provasnik et al., 2002). USAID has collaborated with the Ministry of Education, provided funding, and aided in developing curriculum modifications or new curriculum that address the specific needs of girls in school. The most recent USAID project took place from 1997-2001, with the goals of changing teacher training, increasing community support for and public awareness about girls’ education, and increasing school access (Provasnik et al. 2002).

**Barriers to Girls’ Education**

Provasnik et al. (2002) outline barriers to girls attending primary school in Guatemala: 1. Limited family resources to pay for school uniforms, supplies, transportation, etc. 2. The loss the labor the child could provide for his or her family; 3. Limited schools and infrastructure in rural areas; 4. Poor nutrition, sanitation, and overall health of students, which can result in low school attendance; 5. Socio-cultural beliefs, values, and practices that do not find merit in educating girls; and 6. Poor quality of schooling that presents gendered views of learning.
There are two different components to these barriers: government and people, and social infrastructures. Family, community, teachers and classmates are the people that surround the student on a daily basis, and it is essential that these groups support girls attending and staying in school. Labor, school buildings, health care, and school curriculum are the types of structures that can affect girls’ ability to attend school (Stromquist, 1996; Sahn & Younger, 2006; deBarrio & Arellano, 2007). To provide a deeper explanation of the barriers to girls’ education, the following section details the people and structural barriers.

**Government and People**

Many people are involved when girls attend and continue in school in Guatemala. The government, community, family, teachers, classmates, and to an extent the girls themselves are all stakeholders in the education process. Each of these groups can provide a barrier to girls’ low attendance rates, but each group can also be transformative. Identifying the barriers to educating girls creates the opportunity to find new benefits and solutions, so that every girl has the opportunity to complete primary school.

Government intervention in education in Guatemala occurs through the Ministry of Education. While there has been greater programming and accountability of the Ministry, there is still not a full commitment to provide the necessary support to work specifically on girls’ education (Stromquist et al., 2000). Stromquist et al. state, “There was an obvious disregard by the government of Guatemala. This disregard for commitment certainly contributed to make the effort for girls’ education fragile and unstable” (2000, p. 256). The Ministry of Education cannot be judged on only one negative situation in regard to girls’ education. However, the state developed policies for the years 2004-2012 do not specifically mention girls’ education;
education for all students is mentioned, but there are not any gender specific indicators to directly support girls’ education (MINEDUC, 2004; MINEDUC, 2007).

Education levels are the lowest among girls in poor, indigenous families (Stromquist et al., 2000; Stromquist, 2001; McEwan & Trowbridge, 2007). With government intervention from the Ministry of Education, indigenous education support is improving, but still not meeting the needs of the students. McEwan and Trowbridge (2007) evaluated the achievement of indigenous students in Guatemala in the year 2001. They looked specifically at the PRONADE program to determine if the targeted populations of rural and indigenous students achieved equal success in schooling when compared to their urban and non-indigenous counterparts, and found that indigenous educational achievement is lower than non-indigenous achievement (McEwan & Trowbridge, 2007). The results were explained by the targeted quality of the education the students received. The schools did not make enough modifications to meet the needs of the rural and indigenous students. Language adaptations (for students whose first language is not Spanish) and teacher training were not to the same levels as non-PRONADE schools. McEwan and Trowbridge’s research demonstrates that the Ministry of Education needs to place increased focus on the targeted quality of education students receive once they are in the classroom.

There is the age-old saying about the importance of a community raising a child. The community is able to support a child as the child grows. However, a community can also further ingrain traditional gender roles that hinder the growth of girls. Proasnik et al. (2002) speak to the importance of including community in efforts to educate girls:

Community sensitizing workshops are an essential step for promoting girls’ education.

In the most traditional rural communities in Guatemala – where women are not accorded the same status as men enjoy, are not allowed to participate in local governance, are not
allowed to express opinions in public, and lack self-esteem – Community sensitizing workshops introduce the ideas that women are important contributing members of the community who have valuable opinions and deserve respect. (p. 12)

Community workshops were developed with a program in Guatemala called Proyecto Global, to promote girls’ education. The purpose of the workshops was to bring attention to the importance of girls’ education and literacy in Guatemala (Provasnik et al., 2002).

Typically, in Guatemala the family makes the decision if a daughter can attend school. They determine if they can afford the loss of any labor a daughter may contribute to the family total income. Parents’ educational backgrounds influence the decision of whether their sons and daughters should attend school. Emerson and Souza’s (2007) research on child labor, school attendance and gender bias within households in Brazil looked for the influence of parents’ education levels on the educational attainment of their children. The result of this research found that, “The mother’s education has a greater positive impact on the school attendance of daughters than does the father’s education and…the father’s education has a greater impact on the school attendance of sons than daughters” (Emerson & Souza, 2007, p. 303). However, the more education both parents have, the greater the chance of their children attending and completing school.

As government, community, and family all have influence on a girl attending school, each has different motivations. For instance, the family’s motivation for girls to attend school could be for skills to better operate the family tienda (store). A community’s motivation for girls to attend school could be for the potential of a skilled labor force to bring in increased capital to the town and residents. Human capital investment does not have instant effects on well-being for any of the people involved in girls receiving more education (Filmer et al., 2006). For the family
and in some instances community, the lack of immediate returns to investment from education can cause a questioning of its importance (Bustillo, 1993; Gorman & Pollitt, 1997; Willms & Somers, 2001).

**Social Infrastructures**

Structures related to girls’ education refer to tangible networks that are part of the education process. Labor, health care, school buildings and school curriculum are the main structures that have an impact on educating girls (Stromquist, 1996; Sahn & Younger, 2006; deBarrio & Arellano, 2007). When girls must forgo schooling in order to work and provide income to their family, their labor influences their opportunity to attend school. Drinking contaminated water and living in unclean conditions cause children to become ill and disables them from attending school. In addition, the location of school buildings can also make it very difficult for children to get to school because of distance or terrain. Finally, curriculum can project stereotypical representations of gender roles and discourage girls from attending school (deBarrio & Arellano, 2007).

When a child stays at home to work, he or she contributes to the family income. In Guatemala, as with other places in Latin America, income in rural areas is low; some families may only earn around five dollars a day (Stromquist et al., 2000). Children can make more goods or plant and harvest more land than just the father and mother working. Thus, when a child goes to school, the family must forego earnings. As a result, a family must weigh the costs and benefits of keeping the child at home to work, or sending the child to school (Schultz, 1961; Psacharopoulos & Patrinos, 2004). Emerson & Souza (2007) find that of Brazilian children who work, more than 81 percent of boys and 84 percents of girls attend school at least part time. These numbers are encouraging. However, there are still about 20 percent of working children
not attending school. The study explains that the parents influence their children’s attendance at school and work. The education of the mother and father of households where children work highly influence if children attend school. Mothers with more education push for their daughters to attend school and fathers with more education push for their sons to attend school (Emerson & Souza, 2007).

The Guatemalan school system provides free public education for students through secondary school (Provasnik et al., 2002). While the education is free, families incur the costs of uniforms, school books, general school supplies and transportation (Stromquist, 2001). Many families do not have the income to supply these items for the duration of all of their children’s education. In poor families, there is often a sacrifice in providing children with an education (Stromquist, 2001). Stromquist et al. (2000) report the positive effects of providing small scholarships to girls for school. USAID sponsored small scholarships of $4.30 per month were given to indigenous girls’ families in rural locations to help them purchase school supplies, uniforms, and food and medicine. In exchange for the scholarships, families had to participate in committees and workshops about the importance of girls attending school. The scholarships were able to help families cover the direct costs of educating their daughters and provide some money for the families other needs. Of the participants in the scholarship program, there was better school attendance, promotion, and completion than students who did not participate in the program (Stromquist et al., 2000).

When people expect to live longer lives they are more likely to invest in their personal human capital (Perkins et al., 2006). When students know that they are going to reach adulthood, they have greater incentive to attend school. The health of students and access to health care influences their school attendance. When students are ill they will not generally
attend school. If a student has a chronic condition or is consistently exposed to bacteria they will also miss many days of school, causing them to miss sections of the curriculum and fall behind on the learning topics and assignments (Sahn & Younger, 2006). For girls that become pregnant while still attending school, the school may ask them to leave. As well, with the addition of a child a new mother will find it more difficult to attend school (Lloyd & Mensch, 1999).

Stromquist (1996), Stromquist et al. (2000), Provasnik (2002), and McEwan & Trowbridge, (2007) all point to the importance of the quality of education students receive once they are in school. Stromquist, (1996) states that how girls are represented in the curriculum is an issue of quality of instruction as mediated by the extent to which idealized gender roles or stereotyped expectations are (knowingly and unknowingly) proliferated by the school. Provasnik et al. (2002) identifies teacher training and classroom methodologies as factors in educating girls and positively discuss a teacher training program that addresses the importance of girls being active and confident participants in the classroom.

Indeed, a girl can begin to attend school and feel valued, but if they or their parents do not feel the education they are receiving is of importance then there is less incentive to continue to attend. For example, when looking at literacy in Guatemala, Gorman and Pollitt (1997) found that students and families decide when they have received enough schooling, regardless of whether schooling is ‘complete’ as defined by the state. Once girls have a basic set of literacy skills they are able to function in their life; skills beyond basic literacy and numeracy to not have direct application to girls’ present lives. Additionally, financial need could require the help of a girl with tending to crops, watching young children, or selling goods at the market. If a girl is consistently absent one day a week, she will fall behind on her school work and miss parts of
instruction, which might lead to frustration when attempting to complete her school work. Frustration could result in the decision not to return to school.

Hence, there are competing versions of girls’ lives, at the local, family and state level. Participation at the local level places primary emphasis on present necessities and needs of the family. Girls’ daily lives, needs, and responsibilities take precedence over attendance at school (Gorman & Pollitt, 1997; Stromquist, 2001; Willms & Somers, 2001). The state, however, contrasts the local level present time-orientation with a future time-orientation. The future returns from girls’ and boys’ investment in education drives the state’s education outlook. In Guatemala for instance, education, as prescribed by the state, will create globally competitive citizens with skills to work in the higher profit industry and service sectors of the economy (MINEDUC, 2007). Completion of higher levels of schooling results in girls having more skills to use in the workforce and thus able to earn higher incomes, have access to better health care, and overall improve their quality of life (Save the Children, 2005). The disconnect between local, short-term, and state, long-term needs leaves a gap in education attainment. This gap between the local and state needs to be addressed in order for all children to compete primary education.

Returns to Investment in Girls’ Education

Social and economic returns to investment result from girls receiving education. Returns to investment with girls’ education is measured as the change (positive or negative) to economic and social indicators. As Sen and Shultz in their respective approaches to development state, there are positive externalities associated with education, which are used in the calculation of returns to investment. Social benefits are seen in the improved living situations and environment of a population, and economic benefits are seen as the economic growth and stability of the
nation or community where increased human capital investment though education is made. Both are parts of the returns to investment measurement. The following examines the social and economic returns to investment found from girls’ primary education.

Psacharopoulos and Patrinos (2004) report on the returns to investment in education. According to Psacharopoulos & Patrinos (2004), the investment returns to schooling in Latin America are some of the highest in comparison to other regions. This statement applies to both male and female students; however, there are greater returns from education for female students (Stromquist, 1996; Psacharopoulos & Patrinos, 2004). Psacharopoulos & Patrinos (2004) found that overall, for both boys and girls primary education has the greatest returns to investment to both the individual and society. However, when the returns are calculated by gender and level of education, secondary education for girls has the greatest return for investment. It goes without saying that girls must complete their primary education before they can complete a secondary course of education.

Floro and Wolf (1990) argue that with a greater skill set to utilize, girls are more valuable to both the formal labor force and within the home. They developed a detailed a chart, (Figure 2.2) that marks the process and components of educating girls. This particular chart offers a systematic view of the factors involved with girls’ primary education, and identifies where the returns to investment are found at the individual, family, community and state levels, from both labor force participation and nonmarket participation. The chart starts with the quality of education and skills formation at the primary school level as influential to what girls are able to do outside of school. Girls’ basic skills formation of literacy, numeracy, and the ability to apply and utilize these skills is dependent on the quality and extent of primary education the girls receive.
While Floro and Wolf’s chart focuses on the economic benefits to educating girls, it also addresses social benefits. The social and economic sectors are addressed because of the different sectors, labor force or the home, where girls work. In the labor force, according to Floro and Wolf, there is greater productivity and earnings once a girl has a primary education. The home sector is linked to social benefits such as better childcare, lower fertility, and more efficient production of goods for home consumption. From both the labor force and the home, there are positive externalities to the individual, family, community and nation.

Social benefits provide a good starting point as many of them trickle down to affect economic benefits. Social benefits are associated with development. These benefits provide a better quality of life for the individual. This then affects the quality of life for the group. The main measurements of social benefits are infant mortality, life expectancy, disease prevention, fertility rate, number of male and female students that attend school, and literacy rate (Floro & Wolf, 1990; Save the Children, 2005; UNICEF, 2007; World Bank, 2008). At the economic level of measurement labor, GDP, and growth influence the returns to investment.

When women have an education, they develop skills that allow them to be active consumers of information. This is significant towards access to information on health care. Women are able to read, understand, and apply information they are given about how to care for their children (Ballara, 1991). Life expectancy increases when girls and women receive education. A woman knowing about prenatal care reduces infant mortality. Once a baby is born, information about nutrition and sanitary concerns will allow for a healthy baby. In 1990, the infant mortality rate was 60 out of 1,000 births and in 2006, the number was reduced to 31 out of 1,000 (World Development Indicators, 2008). Keeping water clean, checking children for symptoms of illness, and taking preventative measures are included in the prevention of diseases
Figure 2.2: The Multidimensional Economic Impact of Girls’ Primary Education

As children are able to live through their childhood into adulthood, there is a greater necessity that they receive at least a primary education. For girls in Guatemala this is particularly important because, in 2006, life expectancy was 74 years for females (World Development Indicators, 2008). With this high life expectancy, females need to have skills that will support them for many years.

The size of a population influences the development of a country. When population growth is high, there is often not enough infrastructure in terms of housing, health services, electricity and running water to meet the needs of the country (Perkins et al, 2006). Fertility rate or the number of births per women, is an important statistic to measure the population. Cloud (2002) writes that if girls receive education, when they are older they will have fewer children. As a result, women will give those children they do have more attention and resources. There is also an opportunity cost involved with women having more children because of loss of time or decreased productivity in the workforce. With education and development of skills, as adults, girls have the opportunity to work outside of the home, make a greater income, and be more productive in the society rather than just in their family. Thus, a girl has greater control over her resources with more education (Lloyd & Mensch, 1999).

One of the important aspects of schooling incentives is that when a female receives an education she is more inclined to insure that her children will receive an education (Cloud, 2002; Save the Children, 2005). Mothers with education will be stronger advocates to insure that their daughters receive education; this starts the trend of more girls having access to schooling as generations move on (Emerson & Souza, 1999). As literacy rates increase, women are able to teach their children how to read, write, and do basic mathematics (Ballara, 1991).
Filmer et al. (2006) examine the achievement of students in developing countries and find that the quality of schooling for male and female students produce higher achievement, and more opportunities to move into the labor force. Participation in the labor force is significant because of the creation of new jobs and the movement of businesses where there is skilled labor available (Filmer et al., 2006; Perkins et al., 2006). In Guatemala, only about 35 percent of females aged 15-64 are in the labor force (World Development Indicators, 2008). Hence, there is still opportunity for greater economic activity of women.

Finally, it is important to note that returns to investment in primary education go beyond measurable indicators. For instance, Lloyd & Mensch (1999) state, “Not only the development of their [girls’] human capital, but also the acquisition of a sense of self-esteem and personal mastery will be necessary if they are to realize potential in their public and private life” (p. 81).
CHAPTER III: METHODOLOGY

This chapter describes my research questions, data I used to help answer the questions, and various statistical tests I used to test the data. The statistical tests that I ran are aligned to the research sub-questions. The results of these tests then provide insight into the main research question of the thesis.

My main research objective was to determine the degree to which Education for All (EFA) is meeting its goals of girls’ access to primary education in Guatemala. The stated overall goal of EFA is to have all children, girls and boys, enrolled in and complete primary school starting in 2015. Further, EFA focuses on girls’ full and equal access to quality basic education (UNESCO, 2007). In order to answer my main research question, I devised the sub-questions to look at three angles of educating girls: location, retention, and comparison to boys’ education. I used a causal-comparative research design to carry out this study.

With the decision to use Education for All as a measure of Guatemala’s educational progress, I decided the study would be quantitative in order to parallel the quantitative measures used by EFA. I chose to use preexisting data from the Ministry of Education because the data set contained the variables I needed to analyze girls’ education in Guatemala. The data from the Ministry is extensive, well organized, and easy to use. Additionally, the available data spans years, which allows insight into how education has changed in Guatemala. However, it should also be noted that the original collection of data was limited because of my lack of specific knowledge of the Spanish spoken in Guatemala.

I used data from the Guatemalan Ministry of Education to carry out qualitative test, and aligned the statistical tests to my research questions. I developed each hypothesis from the
literature reviewed above. I used the web-based Stat-Crunch statistical program to perform all of
the statistical calculations.

Data

Data for this study are from the Guatemalan Ministry of Education website, (MINEDUC, 2009). The Ministry of Education provides open and free access to data about enrollment at all levels of education; additionally, the Ministry notes that it is their hope that researchers, the school community, and the public will use the information to contribute to the education of Guatemalans (MINEDUC, 2007). The data is available to download in Excel format to aide accessibility. The Ministry offers complete enrollment information by level, department, and municipality from 1996 thru 2007. The 2008 report is expected to be published after this paper is completed. The ‘historical’ data tables provide total initial enrollment numbers (all students, only boys, and only girls) for two additional years: 1994 and 1995. The data also provide division of public and private school, urban and rural populations, and male and female student enrollment.

Teachers and administrators at all educational institutions in Guatemala collected the Ministry of Education’s data through daily attendance records. Collection instruments, ‘Boletas de Estadística Inicial y Cuadros de Resultado Final’ (Ballots of Initial Statistics and Final Scores) are used to collect the data from the schools (MINEDUC, 2007). The collection instruments are not available for public download. Once the data is collected, it is complied and made accessible by the Ministry of Education.

Within this study, the data used refer only to ‘Primaria de Niños’ (Primary Children) registration numbers, which represent students in grade levels one through six. The data selected include all departments, both public and private schools, and all grade levels, unless otherwise
noted. The raw data are presented with the names of the 22 departments as categories. This means that the tests use 22 individual pieces of data for each part of the statistical tests.

Data Analysis

I used \( t \)-tests in this study to analyze several aspects of the Guatemalan primary school population. All of the tests align to a sub-research question, which then inform the main research question. Table 3.1 displays this alignment of the question to the tests, and identifies the data set used. The alpha level is \( \alpha = 0.01 \) for all tests.

A series of single samples, related samples, and independent samples \( t \)-tests was used to examine the data. Using \( t \)-tests determined if the differences in the enrollment data were significant. All of the \( t \)-tests of single samples and \( t \)-tests of independent samples use with the raw data represented as a percent. This maintains consistency throughout all of the departments and therein the most accurate measure of girls’ enrollment. Running the raw enrollment data (not in percentage form) has high variance because of the population settlement and thus does not produce accurate results.

Single sample \( t \)-tests compare the mean of the data to an established mean. The established mean in this study for all tests is 0.51 (51 percent) to represent the percentages of the Guatemalan population that is female (World Development Indicators, 2008). Related samples \( t \)-tests compared the data of the same department, but measured at two different times: the initial enrollment at the beginning of the school year, and the final enrollment at the end of the school year. An independent samples \( t \)-test compares two groups. This study used location and gender to group enrollment data to determine if the difference in the two groups is significant. In the \( t \)-tests of independent samples, a dummy variable is used. For sub-question one, this variable is 1=urban and 2=rural and for sub-question two, the variable is 1=girls and 2=boys.
Table 3.1: Summary of *t*-tests with Sub-Research Questions

<table>
<thead>
<tr>
<th>Sub-Research Question</th>
<th>Year</th>
<th>Specific Data Used from Guatemalan Ministry of Education</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How does rural or urban location affect girls’ enrollment rates?</td>
<td>2007</td>
<td>Initial and Final Enrollment, Rural, Girls</td>
<td><em>t</em>-test of related samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial and Final Enrollment, Urban, Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Rural Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban and Rural Girls by Location</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1996</td>
<td>Initial Enrollment, Rural Girls</td>
<td><em>t</em>-test of single samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban and Rural Girls by Location</td>
<td></td>
</tr>
<tr>
<td>2. How do girls’ initial and final primary school enrollments compare?</td>
<td>2007</td>
<td>Initial and Final Enrollment, Total (girls/boys and urban/rural)</td>
<td><em>t</em>-test of related samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial and Final Enrollment, Total (urban/rural), Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial and Final Enrollment, Rural, Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial and Final Enrollment, Urban, Girls</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td>Initial Enrollment, Rural Girls</td>
<td><em>t</em>-test of single samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Urban and Rural Girls by Location</td>
<td></td>
</tr>
<tr>
<td>3. How do the primary school enrollments of boys and girls compare?</td>
<td>2007</td>
<td>Initial and Final Enrollment, Total (urban/rural), Boys</td>
<td><em>t</em>-test of related samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial and Final Enrollment, Total (urban/rural), Girls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Male</td>
<td><em>t</em>-test of single samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Total , by Gender</td>
<td><em>t</em>-test of independent samples</td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td>Initial Enrollment, Male</td>
<td><em>t</em>-test of single samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial Enrollment, Total , by Gender</td>
<td><em>t</em>-test of independent samples</td>
</tr>
<tr>
<td>1994 - 2007</td>
<td></td>
<td>Initial Enrollment, Public and Private Sectors, Total (urban/rural), by Gender</td>
<td><em>t</em>-test of independent samples</td>
</tr>
</tbody>
</table>
CHAPTER IV: RESULTS

This chapter presents the results of the data analyses. The results are organized by research sub-question. Statistical \( t \)-tests were used to determine significance from the data. The purpose of the study is to determine the degree of success Guatemala has had on reaching universal girls enrollment in primary school. The sub-research questions address this research purpose by examining the effect of location (urban and rural), the retention and continuation of girls in school, and if gender effects a students’ opportunity to attend school.

**Sub-Question One**

*How does rural versus urban school location effect girls’ primary school enrollment rates?*

Six \( t \)-tests informed this research question, and a summary of the results is in Table 4.1. The enrollment data identified that there was a significant decrease in the difference of urban girls’ initial enrollment and final enrollment; \( t (21) = 3.080, p = 0.0028 \), one-tailed. At all grade levels, more girls in urban schools start the school year than finish. Additionally, there is a significant decrease in the difference of rural girls’ initial enrollment and final enrollment; \( t(21) = 7.481, p < 0.0001 \), one-tailed. Thus, there are a greater number of girls enrolled at the beginning of the school year than at the end of the school year.

The other tests use initial enrollment data represented as percentages to compare urban and rural enrollment. Both 1996 and 2007 were used to determine if the difference in enrollment changed over time. The \( t \)-tests of single samples compare the mean of the data to 0.51, or 51 percent, which represent the percentage of the population that is female (World Development Indicators, 2008). The 1996 initial enrollment for rural and urban females found that enrollment was significantly less than 0.51 where the rural initial enrollment mean is 44.8 percent; \( t(21) = -16.095, p = <0.0001 \), one-tailed and the urban initial enrollment mean is 47.0 percent; \( t(21) = -
12.693, \( p = <0.0001 \), one-tailed. The 2007 initial enrollment of both rural and urban girls were also significantly less than 0.51, which means that girls’ initial enrollment in both locations do not equal the proportion of the population females represent, with the rural initial enrollment mean at 47.6 percent; \( t(21) = -20.600, \ p = <0.0001 \), one-tailed and the urban initial enrollment mean is 48.5 percent; \( t(21) = -21.820, \ p = <0.0001 \), one-tailed.

Table 4.1: Girls Urban and Rural Enrollment Results

<table>
<thead>
<tr>
<th>Population</th>
<th>Test</th>
<th>Direction</th>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
<th>( \alpha )</th>
<th>( t )-statistic</th>
<th>Calculated ( p )-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007, Initial and Final Urban Girls</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>H0: ( \mu_0 \leq 0 )</td>
<td>H1: ( \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>3.080</td>
<td>0.0028</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial and Final Rural Girls</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>H0: ( \mu_0 \leq 0 )</td>
<td>H1: ( \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>7.481</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Rural Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{rural} \geq 0.51 )</td>
<td>H1: ( \mu_{rural} &lt; 0.51 )</td>
<td>0.01</td>
<td>-20.600</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Urban Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{urban} \geq 0.51 )</td>
<td>H1: ( \mu_{urban} &lt; 0.51 )</td>
<td>0.01</td>
<td>-21.820</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Urban and Rural Girls by Location</td>
<td>( t )-test, independent</td>
<td>one-tailed</td>
<td>H0: ( \mu_{urban} \leq \mu_{rural} )</td>
<td>H1: ( \mu_{urban} &gt; \mu_{rural} )</td>
<td>0.01</td>
<td>4.374</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Rural Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{rural} \geq 0.51 )</td>
<td>H1: ( \mu_{rural} &lt; 0.51 )</td>
<td>0.01</td>
<td>-16.095</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Urban Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{urban} \geq 0.51 )</td>
<td>H1: ( \mu_{urban} &lt; 0.51 )</td>
<td>0.01</td>
<td>-12.693</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Urban and Rural Girls by Location</td>
<td>( t )-test, independent</td>
<td>one-tailed</td>
<td>H0: ( \mu_{urban} \leq \mu_{rural} )</td>
<td>H1: ( \mu_{urban} &gt; \mu_{rural} )</td>
<td>0.01</td>
<td>4.522</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
</tbody>
</table>

The \( t \)-tests of independent samples that look at the effect of location on girls’ initial school enrollments. In 1996, rural girls did have a significantly smaller initial enrollment than urban girls; \( t(42) = 4.522, \ p = <0.0001 \), one-tailed. A similar result occurred in 2007, where
$t(42)=4.374$, $p=<0.0001$, one-tailed. Hence, in both 1996 and 2007 the difference in urban and rural girls’ school enrollment was significant, suggesting that rural schools have fewer girls enrolled.

The rural and urban school enrollments have had various levels of growth in the past. In order to see the different levels of growth, Figure 4.1 graphically shows girls’ initial enrollment in Guatemala from 1996-2007. The graph uses girls’ initial enrollment data for rural, urban, and total populations for the given years. Looking at the graph, there are more students in primary school in rural areas, and the majority of the school enrollment growth is coming from the number of students in rural schools. The difference between the number of students in rural and urban schools suggests where the majority of the population in Guatemala lives, and where the majority of the services for students are concentrated.

Figure 4.1: Girls’ Initial Enrollment, Total, Urban and Rural Schools, 1996-2007

While the graph (Figure 4.1) shows an increase in girls’ enrollment over time, statistical tests show that the increase is not enough to provide all urban and rural girls’ with a primary education. Enrollment in both 1996 and 2007 identify that rural schools have a smaller
percentage of girls enrolled than urban schools. However, while rural school have fewer girls enrolled there was a large increase in the percentage of rural girls enrolled from 1996 (44.8 percent) to 2007 (47.6 percent).

Sub-Question Two

*How do girls’ initial and final primary school enrollments compare?*

Enrollment measured at the start and the end of the school year show how many students did not finish the year. Using the difference in enrollment for all of Guatemala (boys and girls, rural and urban) provided a starting point to see if retention was a national problem. A summary of the results for sub-question two are in Table 4.2. There is a significant decrease in the difference of all students’ (boys and girls) initial enrollment and final enrollment; t(21)=7.379, \( p < 0.0001 \), one-tailed. This result suggests that the loss of students from the start of the year to the end of the school year is in all sectors and locations, and effects both genders. The other statistical tests related to this sub-question focus specifically on girls.

Table 4.2: Initial and Final Enrollment Results

<table>
<thead>
<tr>
<th>Population</th>
<th>Test</th>
<th>Direction</th>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
<th>( \alpha )</th>
<th>( t )-statistic</th>
<th>( p )-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007, Initial and Final Total</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>( H_0: \mu_0 \leq 0 )</td>
<td>( H_1: \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>7.379</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial and Final Total Girls</td>
<td>( t )-Test, related</td>
<td>One-tailed</td>
<td>( H_0: \mu_0 \leq 0 )</td>
<td>( H_1: \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>7.355</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial and Final Urban Girls</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>( H_0: \mu_0 \leq 0 )</td>
<td>( H_1: \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>3.080</td>
<td>0.0028</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial and Final Rural Girls</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>( H_0: \mu_0 \leq 0 )</td>
<td>( H_1: \mu_0 &gt; 0 )</td>
<td>0.01</td>
<td>7.481</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
</tbody>
</table>

To address girls’ enrollment over the course of the school year, other tests used data on only girls’ primary school starting and ending enrollment. There is a significant decrease in the
difference of girls (urban and rural) initial enrollment and final enrollment; \( t(21)=7.355, p=0.0001 \), one-tailed. This means that there are more girls who start school than finish school, and that the number of girls that do not finish the school year is of importance. The following results were mentioned in relation to school location; however, they are also relevant to understanding the extent of girls’ initial and final enrollments. For urban schools, there is a significant decrease in the difference of girls’ initial enrollment and final enrollment; \( t(21)=3.080, p=0.0028 \), one-tailed. Rural areas face a similar result in that there is a significant decrease in the difference of girl’s initial enrollment and final enrollment; \( t(21)=7.481, p<0.0001 \), one-tailed.

To satisfy the research question of how girls’ initial and final primary school enrollments compare, statistical analysis identifies that girls’ initial and final enrollments are significantly different. This suggests that retention of girls in school is a problem in Guatemala; there is a disconnect from when girls start and end the school year. Factors inside and outside of school are effecting girls’ ability to attend and finish a year of school.

Sub-Question Three

*How do the primary school enrollments of boys and girls compare?*

A comparison between boys and girls’ enrollments provides the means to suggest equality or inequality in primary education access. The following results are summarized in Table 4.3, and focus on the differences of boys and girls’ enrollment numbers. In 2007, initial and final enrollment for boys demonstrate that there is a significant difference between initial and final enrollment; \( t(21)=7.390, p<0.0001 \), two-tailed. Girls’ initial and final enrollment for 2007 show that there is a significant difference in the initial and final enrollments; \( t(21)=7.355, p<0.0001 \), one-tailed.
\[ p < 0.0001, \text{ two-tailed}. \] Thus, both boys and girls have significant differences in initial and final enrollment, and there is not a difference found regarding the gender of the students.

The single sample \( t \)-tests allowed the mean of the percentage of boys and girls to be calculated and compared to 0.51, which represents the percentage of the population girls represent. For boys, the mean enrollment was 54.6 percent in 1996; \( t(21)=9.523, p<0.0001, \text{ one-tailed} \), and in 2007 boys’ mean enrollment was 52.1 percent; \( t(21)=7.558, p<0.0001, \text{ one-tailed} \).

Table 4.3: Boys and Girls’ Enrollment Results

<table>
<thead>
<tr>
<th>Population</th>
<th>Test</th>
<th>Direction</th>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
<th>( \alpha )</th>
<th>( t )-statistic Calculated</th>
<th>p-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007, Initial and Final Total Boys</td>
<td>( t )-Test, related</td>
<td>two-tailed</td>
<td>H0: ( \mu_D = 0 )</td>
<td>H1: ( \mu_D \neq 0 )</td>
<td>0.01</td>
<td>7.390</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial and Final Total Girls</td>
<td>( t )-Test, related</td>
<td>one-tailed</td>
<td>H0: ( \mu \leq 0 )</td>
<td>H1: ( \mu &gt; 0 )</td>
<td>0.01</td>
<td>7.355</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{girls}} \geq 0.51 )</td>
<td>H1: ( \mu_{\text{girls}} &lt; 0.51 )</td>
<td>0.01</td>
<td>-21.076</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Boys</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{boys}} \leq 0.51 )</td>
<td>H1: ( \mu_{\text{boys}} &gt; 0.51 )</td>
<td>0.01</td>
<td>7.558</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>2007, Initial Enrollment, Girls and Boys by Gender</td>
<td>( t )-test, independent</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{girls}} \geq \mu_{\text{boys}} )</td>
<td>H1: ( \mu_{\text{girls}} &lt; \mu_{\text{boys}} )</td>
<td>0.01</td>
<td>-20.240</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Girls</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{girls}} \geq 0.51 )</td>
<td>H1: ( \mu_{\text{girls}} &lt; 0.51 )</td>
<td>0.01</td>
<td>-14.787</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Boys</td>
<td>( t )-test, single</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{boys}} \leq 0.51 )</td>
<td>H1: ( \mu_{\text{boys}} &gt; 0.51 )</td>
<td>0.01</td>
<td>9.523</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1996, Initial Enrollment, Girls and Boys by Gender</td>
<td>( t )-test, independent</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{girls}} \geq \mu_{\text{boys}} )</td>
<td>H1: ( \mu_{\text{girls}} &lt; \mu_{\text{boys}} )</td>
<td>0.01</td>
<td>-17.190</td>
<td>&lt;0.0001</td>
<td>reject null</td>
</tr>
<tr>
<td>1994-2007 Initial Enrollment by Gender</td>
<td>( t )-Test, independent</td>
<td>one-tailed</td>
<td>H0: ( \mu_{\text{girls}} \geq \mu_{\text{boys}} )</td>
<td>H1: ( \mu_{\text{girls}} &lt; \mu_{\text{boys}} )</td>
<td>0.01</td>
<td>-20.235</td>
<td>&lt;0.0001</td>
<td>fail to reject null</td>
</tr>
</tbody>
</table>
Girls’ mean enrollment was 45.3 percent in 1996; $t(21)=-14.787, p<0.0001$, one-tailed, and in 2007 the mean enrollment was 47.8 percent; $t(21)=-21.076, p<0.0001$, one-tailed.

Performing the tests by gender in two distinct years provides insight into any difference in the results when measured at different times. In 1996, girls did have a significantly smaller initial enrollment compared to boys; $t(42)=-17.190, p<0.0001$, one-tailed, and in 2007, girls did a significantly smaller initial enrollment than boys; $t(42)=-20.240, p<0.0001$, one-tailed.

An aggregate analysis from the years 1994-2007 indicates that girls did have a significantly smaller initial enrollment than boys; $t(26)=-20.235, p<0.0001$, one-tailed. A graphical representation (Figure 4.3) of the data used in this final statistical test shows the growth in the enrollment numbers, but also the consistent ‘gap’ between boys and girls’ enrollment.

**Figure 4.2: Total Boys and Girls’ Initial Enrollments, 1994-2007**

The results that examine gender differences in education enrollment indicate that there are significant differences in boys and girls’ primary school enrollment in Guatemala; girls’ initial primary school enrollment is smaller than boys’. These results suggest that there is still unequal school access for boys and girls to attend school. The single samples $t$-test found that
from 1996 to 2007 the percentage of girls enrolled in primary school increased, however there are still more boys enrolled than girls. Further examination of the results is discussed in the following chapter.

Main Research Question

To what degree is EFA meeting its target goal of girls’ enrollment in primary education in Guatemala?

The results of the above statistical tests and sub-research questions inform the main research question. There are no direct statistical results tied to this question; however, a summary of the results of the sub-questions supplies the results of the main research question. Hence, the sub-question results yield the following: 1. Location does effect girls’ enrollment; there is a smaller percentage of girls that attend school in rural areas than in urban areas; 2. Primary school completion is a problem for both urban and rural girls; and 3. There are significantly fewer girls than boys enrolled in primary school; however there was improvement in girls’ enrollment from 1996 to 2007. Hence, Guatemala is not making adequate progress to have all girls in primary school by 2015. There is not an equal level of access for girls to attend and complete schools in all of Guatemala, particularly rural areas.

The following chapter discusses the results in the context of the literature reviewed on girls’ education. I conclude with general conclusions and recommendations for future research.
CHAPTER V: DISCUSSION

This study used data from the Guatemalan Ministry of Education to look at urban and rural, initial and final, and boys and girls’ primary school enrollment rates. Data used were from 1994-2007, with the concentration of the tests using data from 1996 and 2007. Data analysis included single, independent, and related samples t-tests. To review: I found that location does affect girls’ enrollment; primary school completion is a problem for all girls (both urban and rural) in Guatemala; and there are significantly fewer girls than boys enrolled in primary school. In the following section, I place the above results within the context of the literature by research sub-questions. Finally, I examine the main research question.

Sub-Question One

*How does rural versus urban school location effect girls’ primary school enrollment rates?*

My statistical analyses found that there was a difference in girls’ rural and urban enrollments. The percentage of rural girls that attend school is smaller than the percentage of urban girls that attend school. Extant research states that rural schools have more barriers for girls to attend school such as language, distance to school, cost of schooling, and cultural differences in instruction (Gorman & Pollitt, 1997; Stromquist et al., 2000; Provasnik et al., 2002; McEwan & Trowbridge, 2007). Further, in rural areas, girls have greater demands on their time such as assignment to farming or the family business, or caring for younger children in their families (Stromquist, 2001). There is not a similar dialogue within much of the research literature related to barriers to school that surround girls’ education in urban areas. While rural schools do have a smaller percentage of girls enrolled than urban schools, both rural and urban schools have less than 51 percent enrollment for girls. Additionally, there has been an increase from 1996 to 2007 in the percentage of girls in rural areas that attend school.
Several explanations might account for why rural and urban schools both struggle to have girls’ enrollment equal the percentage of the population they represent. To frame this explanation, I evaluate the goals and policy from the Ministry of Education and EFA related to rural and urban education. From there, I look at specific programming that has been enacted that would have an effect on the data collected. This refers to programs that would have taken place during years leading up to the collection of this data, or programs that focused on particular populations. Finally, I reexamine the literature that addresses rural and urban education to determine where my results fall in relation to the established literature.

The Guatemalan Ministry of Education and EFA goals to address rural education have been the main focus of existing location-specific education goals and policy. EFA, under its goal for Universal Primary Education, identifies that children of ethnic minorities need to attend and finish primary education. In Guatemala, the majority of the indigenous minority population is located in the rural areas. Thus, ideally rural education goals must specifically target the ethnic minority of the country. In 1996, the peace accord from the civil war focused on developing rural education programs. Rural education was at that time concerned with increasing bilingual (Spanish and indigenous language) education programs. This goal was later adapted as a ‘políticas educativas’ (education policy) of the Ministry of Education. With policy established for bilingual programs and rural enrollment, the Ministry developed PRONADE, which focuses specifically on increasing and maintaining rural student enrollment, and developing bilingual education programs. During the same time as PRONADE (National Self Management Program for Education Development), other smaller programs focused specifically on girls’ education in rural areas. Provasnik et al. (2002) writes about how the above programs focused on building
rural community support to send girls to school. Stromquist et al. (2000) address programming from USAID that provided financial support to send indigenous girls in rural areas to school.

From the results, it appears that the specific rural education programming and policy has increased overall the levels of rural girls’ education. While the programs have narrowed the difference in education between urban and rural areas, they are still not addressing all of the problems with girls’ enrollment, such as retention in schooling. Urban education has not had any specific targeted programming or policy, and has not made similar gains in increasing the number of girls that attend schools in urban education. Within the research literature, this study is unique in that it looks at a comparison of urban and rural schools. Most of the research has focused on rural indigenous populations and past problems with their low enrollment. However, I find that analysis of both rural education and urban education more accurately identifies enrollment issues and better lends itself to framing suggestions for improvements in both sectors.

In relation to meeting the EFA goal in Guatemala of all girls attending primary school, the results identify that primary school retention is a problem in both urban and rural areas, but both urban and rural areas have had success at providing equal access to education. In order to meet the EFA goal of all girls to attend and finish primary school, Guatemala will have to address retention in both rural and urban areas. Differentiating and targeting programs and policy would be one of the first steps that the Ministry of Education or other organizations would have to take in order to meet the needs of both rural and urban female students.
Sub-Question Two

*How do girls’ initial and final primary school enrollments compare?*

Statistical analysis indicates that more girls in both urban and rural areas start than finish the school year. Retention of girls in the primary school is a problem in that of all the girls who start the school year, there are many that do not finish the school year. It is interesting to look at girls’ enrollment at each primary school grade level. Figure 5.1 shows the percentage of girls enrolled at each grade level in 2002 and 2007. The year 2002 was the first time the Ministry of Education reported data by grade level. In both years, the higher the level of primary school the fewer the number of girls enrolled. This demonstrates that each year as girls get older they are less likely to return to or complete school. However, from 2002 to 2007 there is a slight shift to have more students in the higher grades, suggesting that more girls are staying in primary school longer.

**Figure 5.1: Total Girls Enrollment by Grade, 2002 and 2007**

<table>
<thead>
<tr>
<th>Grade</th>
<th>2002 Percentage</th>
<th>2007 Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Third Grade</td>
<td>17%</td>
<td>19%</td>
</tr>
<tr>
<td>Fourth Grade</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>Fifth Grade</td>
<td>11%</td>
<td>13%</td>
</tr>
<tr>
<td>Sixth Grade</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>First Grade</td>
<td>29%</td>
<td>25%</td>
</tr>
</tbody>
</table>
I next examine the policy and goals of the Ministry of Education and EFA’s respective programs to find why retention could be a problem in Guatemalan schools. I also examine my findings in relation to other literature about education in Guatemala.

Firstly, looking at the policies of the Ministry of Education and EFA, I did not find any established goals or policies that directly focus on girls’ retention in schools in either rural or urban areas. Goals from both the Ministry and EFA focus on universal education attendance, where all children should, but not always do, attend primary school. Within this goal, it appears to be assumed that when girls start school they will also finish school. Other established goals and policies around girls’ education in Guatemala could distract attention from the significance of girls completing primary schooling.

The Ministry and EFA both have policies that focus on the quality of education students receive. Both EFA and Ministry policy states a connection between quality education and higher school completion levels (MINEDCU, 2007; UNESCO, 2007). EFA defines a quality education as, “ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy, and essential life skills” (UNESCO, 2007, p. 18). Thus, a quality education, according to EFA, is one where students have demonstrated high achievement on basic learning skills. The Ministry of Education echoes this idea of quality as accountability. Items tied to accountability as defined by the Ministry involve new curriculum, improved teacher training, evaluation, and preparing the student to be part of the global world (MINEDUC, 2007).

There is a disconnect between how the Ministry of Education and EFA on one hand, and students on the other hand define quality education. The Ministry and EFA both look at a quality education as being, separate from the students’ particular needs, while students see a quality
education as related to their lives. Stromquist (2001) identifies how quality of education can influence students’ decisions to continue schooling in Latin America; she writes that when students feel that what they are learning in school will not impact their life they will leave school to pursue other activities, such as work. Thus, the quality of the content is a determinate in a girl’s decision to attend school. Better teachers, improved curriculum materials, and established education outcomes can improve measured quality of education, but it cannot necessarily directly improve a girl’s life. Hence, the quality of education must not stop at making sure students are achieving in school, but should also provide application to girls’ local needs (Stromquist, 2001).

Providing Universal Primary Education and better quality of education both aim at addressing student retention, but there are not any specific Ministry goals or policies that state that all girls who start primary school will also finish primary school (MINEDCU, 2007; UNESCO, 2007). A specific focus on encouraging girls to stay in school could lead to programs that go beyond initial access and quality, and provide alternative schooling for girls who cannot attend a traditional school setting, or scholarships to reduce financial constraints on families.

My specific results identify that retention is a problem for girls in Guatemala. If the specific issue of girls’ retention in primary school is not addressed, then meeting the EFA goal of all children in primary school is less likely, because even if all girls start school, there will be many who never make it to the end of a school year, or the final level of primary schooling.
Sub-Question Three

*How do the primary school enrollments of boys and girls compare?*

Data analyses identify significant differences in boys and girls’ primary school enrollments. Girls make up less of the school population than boys. While, there is not gender equality in the primary school, there has been an improvement over time. Enrollment was more balanced by gender in 2007 than in 1996, but there is still a significant gap in boys and girls’ enrollment. In order to frame this result, it is necessary to look at the established goals of EFA and the Guatemalan Ministry of Education, programs that focus on girls’ education, and where the result fits amongst other studies on girls’ primary school enrollment.

The Ministry of Education and EFA both have the established goals to attain universal primary education, where all boys and girls attend primary school. EFA goes further to differentiate girls’ education by making sure girls have equal access to and achievement in primary school. These goals are linked to the Guatemalan Ministry of Education policy for universal primary education for all sectors of education. It should be noted that international organization programs have been influential in increasing the number of girls in school. The World Bank, USAID, and UNESCO have past or current programs in Guatemala that focus on girls’ access to primary school. The programs focus on community support, curriculum, and funding (Stromquist et al. 2000; Provasnik et al., 2002; The World Bank, 2008). Girls’ education programs that are supported by these international organizations focus on particular communities and do not extend the programs across the entire country. These programs have improved enrollment in the communities they have served over the years, but still have more work ahead in order to meet the EFA goals of gender equality and all students in school.
As the EFA goals focus on girls’ equal access in education, Guatemala still has much work ahead to have all girls enrolled in primary school. Programs that focus on girls’ primary education have been helpful, as many girls now have greater opportunities to attend primary school. Nevertheless, these programs are not reaching all girls in Guatemala. Efforts must continue to promote girls’ education at the primary level throughout all of Guatemala.

Main Research Question

To what degree is Education for All meeting its target goal of girls’ enrollment in primary education in Guatemala?

The EFA goals for girls’ education stress that all girls should attend and complete primary school, and have an equal opportunity to do so. Examination of the sub-questions reveals the following: the location of the school in an urban or rural area affects a girls’ opportunity to attend school; boys and girls have significant enrollment differences; and retention of girls (as measured by initial and final enrollment) is a problem in the primary schools. With the results and discussion that surround the sub-questions, I conclude that Guatemala will not meet the EFA goals for girls’ education by the 2015 target year. However, if increased attention and focus is given to girls’ primary schooling, the EFA goals may be obtainable. In order to have every girl receive a primary school education, there need to be goals and policies that address the importance of girls attending and then completing their education.

Promotion for the education of girls should not stop at the primary school level. Placing a value on higher levels of education will demonstrate that learning does not stop after a girl has left childhood. By promoting higher levels of education, Guatemala will increase its level of human capital. With people learning new or more advanced skills, Guatemala would be able to start or host a variety of businesses that can increase the well-being of individuals and the
population as a whole. Education toward increasing human capital in Guatemala is both significant to the individual and the nation. However, generally, individuals primarily see education in how it will directly and locally effect their income, family, and job. If education beyond a particular point does not meet their needs, they will stop attending school. Present needs could outweigh any future benefits education could give them. This can be seen from girls not finishing a school year or all of their primary school education. An individual gets an education for them self, and not primarily for the development of their country (Sen, 1999). Guatemala, vis-à-vis the Ministry of Education, looks at education as a means for national development. From the literature and current policies, there is a top-down approach promote education, which does not meet the specific, immediate needs of local populations.
CHAPTER VI: RECOMMENDATIONS AND CONCLUSION

To meet EFA goals, Guatemala needs to continue to promote girls’ education. Immediately, this includes raising girls’ attendance rates to the same as boys. As 2015 comes closer, Guatemala needs to increase its focus on policy and research on improving girls’ education.

Recommendations for Policy

In order for changes in policy to reflect and meet the needs of both the state and local communities, there must be mutual understanding and agreement on aims, objectives, and processes between both groups. Time, clear communication, and flexibility must accompany the interactions between the state and local communities. A gradual process of increasing girls’ opportunity to attend school could allow families and communities to see how education is adding to their quality of life, such as through access to information (literacy), health care, and nutrition. There must be opportunity for both the state and local communities to adjust and balance their policy and perceptions of girls’ education.

Policy recommendations that happen at the state level must be informed by the local schools. Local schools are able to report why girls are not coming to school, and could collaborate with the Ministry of Education to develop policy that will meet the needs of their communities and students. Specific policy and programming could allow each school to develop their own methods to teaching the formal curriculum or provide alternative forms of primary school. A targeted program, for example, could help children learn part of the science curriculum at home planting and tending crops, or provide funding to create a school garden. The state would have the oversight over such programs because of established curriculum goals, which would insure that students are still taught the basic skills identified as important.
To help carry out state specific policy at the local level, the Ministry of Education could partner with international organizations or small non-governmental organizations which could then provide direct community support to implementing the policy (Bonin & Eccher, 2000). Working directly in the community, the smaller organizations could provide greater outreach and information about the education of girls. For example, the organizations could explain what girls would be able to contribute to their families with more education, or even design assignments where girls work with their families to solve problems within the family business (such as reading about growing corn or counting change for a customer).

Policy also needs to be more specific towards girls’ education. Before the policy can be effective there needs to be continuous promotion within the community of the importance of girls attending school. The Ministry could sponsor advertisements, community workshops, and opportunities for families to be involved in their daughter’s education, and this could lay the foundation for policy measures to be more effective. Additionally, policy could focus on incentives, such as scholarships, food, or even education for parents, to encourage families to send their children to school. Giving parents knowledge and incentive to educate their daughters could increase the completion and continuation of girls in school.

A final policy option would be to develop girl-only schools that would focus on the needs of girls in the formal and universal instruction and curriculum. Teachers within these schools would have training to provide a complete and (to the extent possible) unbiased education that emphasizes opportunities and abilities of girls and women in Guatemala. Additionally, girls could have the opportunity to learn skills for not only the home but also for farming, the service sector, and the industrial workforce. Such schools could enhance the opportunity a girl has to continue in school or in the workforce.
Recommendations for Future Research

Future research that looks at girls’ education in Guatemala needs to examine why girls are not attending and completing school. Research about urban education in Guatemala would create a dynamic parallel to the existing literature about rural education. Differentiated research for the rural and urban schools would better direct changes that best meet the needs of students in each area. This study identifies retention as a problem for girls in primary school in both rural and urban areas. Ethnographic studies in rural and urban areas in Guatemala would be able to better illuminate the factors outside of school contributing to girls not attending school, leaving school during the school year, or not completing primary school. Knowledge of what is causing girls not to finish school would provide opportunities to inform policy on the formal curriculum as well as alternative schools.

Conclusion

The location of schools, retention, and gender are all significant issues in the primary education of girls. Guatemala is currently not making adequate progress to have all girls attend primary school by 2015 in order to meet Education for All goals. Changes in the education policy of Guatemala need to promote girls’ education and work to provide girls the opportunity to attend school no matter where they live and what their background is, and encourage family and community support in the education of their girls.
REFERENCES


