IMPACT OF COMPUTER LITERACY CLASSES FOR HISPANIC PARENTS: CASE STUDY – MIGH, HOUSTON

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A Thesis

Presented to

The Faculty of the Department

of Anthropology

University of Houston

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In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

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By

Natalia S. Faustova

December, 2012

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ABSTRACT

Technological advancement calls for the availability of computers and internet access at home. A gap exists between those who can and cannot benefit from digital technology. As a consequence of structural violence (Paul Farmer), this digital divide has spread to many low-income groups including Hispanics. The Mexican Institute of Greater Houston is striving to narrow the digital divide for the local Hispanic communities by offering computer literacy program and to preserve the parents' status as "role-model" in the family through persuading parental involvement in children's academics. MIGH administered surveys both before and after these literacy classes. This thesis conducts a quantitative analysis of the surveys. The study discovered a high drop-out rate, self-selectiveness inside the group (mostly women, etc.), an improvement of computer skills and attitude towards computers among participating Hispanic adults. It also revealed positive changes in parents' ability and desire to participate in children's academics.

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Chapter One – Introduction

Statement of the Problem

The 21st century began with an overwhelming amount of technology that included: computers, various types of digital media, and communication devices. Public schools introduce computers at the elementary school level, while older students are expected to complete assignments using computers and the internet. An increasing presence of technology in everyday life calls for availability of computers and internet access at home. The demographic data published by U.S. Census Bureau in 2009 includes sections analyzing accessibility of technology and a technological gap between social groups (US Census Bureau, 2009).

According to the definition in Oxford Dictionaries, digital divide is "the gulf between those who have ready access to computers and the internet, and those who do not: *a worrying "digital divide" based on race, gender, educational attainment, and income"* (Oxford Dictionaries, 2012). The digital divide is based on the level of availability of internet access and computer literacy among the population. The concept of the "digital divide" refers to the gap that exists between those who can benefit from digital technology and those who cannot (Smith, 2010). The U.S. Census Bureau statistics point out a considerable digital divide for the Hispanic population of the U.S.

This study will address some aspects of digital divide among Hispanics in Houston, TX; therefore, it is necessary to identify what this particular cultural group includes. According to the U.S. Congress definition, Hispanics are the Americans of Spanish-speaking background whose origin can be traced to Mexico, Puerto Rico, Cuba,

Central and South America or any other Spanish-speaking country (Passel and Taylor, 2009). Thus, this research focuses on Hispanics in Houston area who are faced with the problem of digital divide that is particularly obvious in immigrant Spanish-speaking communities and especially among their adult members (Livingston, Gretchen, Parker and Fox, 2009).

The lower level of computer knowledge among the Hispanics reduces job opportunities for them. Moreover, computer illiteracy among adults is resulting in destabilization of the institution of the "traditional family" (Rivera, 2007). The studies of the impact of technology for community development among low-income Spanish-speaking immigrant families conducted by Hector Rivera suggest that parents lacking computer knowledge are unable to preserve their superiority status in the family in relation to their children. Inability to provide the necessary technological help distances them from their children's academic education and contributes to the devaluation of parental status of a role model for the children (Rivera, Lopez and Nadal, 2007). The more technologically advanced children are more likely to undermine parental influence and control which can lead to poorer performance in school, higher drops-out rates, and eventual rejection of higher education. Promoting education (and in particular, computer education) among the Hispanic adults may allow for the better employment opportunities and promote the preservation of family values and closer family connections between parents and children.

The Mexican Institute of Greater Houston (MIGH), TX in the US, represents one of the organizations that have made Spanish-speaking communities their focal point. MIGH identifies its mission as the enrichment of the lives of Hispanics through education

and promotes computer literacy among local Spanish-speaking adults by offering free computer literacy classes (Changing Lives, 2011). The classes provide basic knowledge of PC computers and essential Windows computer software. Besides basic computer knowledge, the curriculum also includes lectures which address various social issues such as domestic violence, nutrition values, financial planning, organization of the education system (http://www.mexicaninstitute.org, 2012).

The present research project is a re-study of the investigation conducted by sociologist Hector Rivera who was hired by MIGH as a consultant in 2007 to assess the results of the computer program provided to the Hispanic adults by the organization in Houston area. Rivera's studies in 2007, 2008, and 2009 found substantial differences on the assessments of participants' technology skills when comparing the results of the surveys filled out before and after the course. The results also demonstrated an overall assurance among the participants that the program would be beneficial for future employment and have positive effect on parental involvement in their children's education (Rivera, 2007, 2008, 2009).

This research project focuses on the impact of computer literacy classes offered by MIGH on Hispanic adults. With the help of Statistical Program for the Social Sciences (SPSS), this project performs a quantitative comparison of the pre-test and post-test questionnaires completed by the participants of MIGH's computer classes during the 2011/2012 academic year. The key questions addressed during the investigation are:

1) Do the computer literacy classes offered by MIGH have an impact on parental involvement in children's academics?

2) Do these courses influence the participants' self-efficacy when working with computers?
3) Are there changes in participants' computer skills when compared at the beginning of the courses and upon the completion?

Based on previous studies conducted by Rivera in 2007, 2008, and 2009, we expect to see an overall positive effect of courses offered by MIGH to the Hispanic adults in Houston. This research project also anticipates determining significant variables effecting parental participation in the academics of their children.

As a science dedicated to the study of human beings, anthropology is concerned with the transformation of persons from childhood into adulthood in a particular culture. Such anthropologists as Boas, Mead, Redfield, Malinowski, and Benedict have addressed the connection between education and anthropology from the point of view that education is a means for transferring the social values. A child learns through various aspects of life– society, school, community, family. Anthropology of education focuses in particular on the cultural aspects of education. Anthropologists contribute to the understanding of school as a social system that influences the development of human beings. One of the major contributors to the anthropology of education George Spindler who believed that anthropologists are "fitted to undertake microcosmic studies of schools as 'social systems' or to analyze relations between the school and the local community" (Spindler, 1973: 14). One way anthropologists apply their knowledge of anthropological concepts and methods, according to Spindler's idea, is to study the relationship between parental involvement in a child's education as a cultural aspect (i.e. to define the value of such involvement for the child, parents, school, and community). The relationship between

anthropology and education can be viewed through the prism of application of anthropological theory and procedure to enhance our understanding of school and society as one intertwined system (Hoebel, 1955).

As a foreigner in the U.S. (I am from Russia), I grew to appreciate the value of education – I believe that the only way to get better life is to obtain an education and develop an expertise in a particular area. In the course of my life in this country, I have learned that I was not alone in my thoughts. Many foreigners strive to improve their education and aspire for their children to progress beyond their personal achievements. Many foreigners and immigrants in the U.S. know that this country offers various opportunities for education and self-improvement that might be inaccessible in their countries of origin (Suarez-Orozco, 1991). Hispanic communities in the U.S. are no exception. As the current study demonstrates, the majority of the study participants do not have a higher education; however, they want their children to receive a university degree. Unfortunately, some immigrant parents do not knave a knowledge and understanding of how to take advantages of these opportunities, how to become involved in children's academic life, how to make a positive impact on their lives, and to make their dream come true for their children (Suarez-Orozco, 1991). Thus, it is important for anthropologists to study various aspects of family and community life to reveal these relationships and influences on the formation of a child as an individual evolving in a particular cultural setting.

It is essential to continue conducting research similar to Rivera's due to the shortage of information on the progress and impact of analogous classes offered by similar organizations. This study also represents a value for further development of

MIGH's existing program: grant applications allowing for further funding of the program, analysis of the program's structure and impact, and development of marketing tools for geographic and demographic expansion of the program.

Review of the Literature

Among others, technology is a key player in today's society. Technology surrounds us at home, at work, in schools, and even in public places. As the younger generations grow up surrounded by technological advancements and provided with computer education in schools, it becomes especially important for the parents to become comfortable with computer technology.

The level of parents' involvement in a child's life affects various areas in that child's development, ranging from academic performance to a child's achievement throughout the life course. Parents are the first teachers to the child, and home is a crucial environment that influences a child's development and future life (Grace, Jethro, and Aina, 2012). Thus, parents' comfort with and understanding of computer technology is another factor facilitating the relationship between parents and their children.

Parents' influence on children's achievements in school has been well researched and suggests that parents' participation in children's affairs (at home as well as in school) has a positive effect on their academic performance (LaRocque, Kleiman and Darling, 2011; Colson, 2010; McDermott, 2006; Lopez, Kreider and Foffman, 2005). Grace, Jethro and Aina conclude in their studies that parental participation in school supports the child's perception of the connection between school and home and contributes to understanding that school is an important part of the family's life (Grace, Jethro and Aina, 2012). The findings reveal that a child's academic performance improves when

parents create a home atmosphere promoting learning and when parents are involved in school by providing services and support to the students. Thus, parental involvement in school includes parental values and educational goals that are demonstrated through parental interest and positive parenting methods. This influences child's view of himself/herself as a student and his/her educational goals and self-esteem (Grace, Jethro and Aina, 2012). Thus, the level of parents' involvement in children's education at school and at home, their ability to create a home environment that promotes education and learning, and their expectations for the children's future are major contributing factors to a child's success in school.

Moreover, routines in homework and house responsibilities, parents regulating the children's activities outside of school, family encouragement of children's academic progress, parents providing the necessary support at home and demonstrating interest in child's life, assisting with children's homework, discussing the value of education, and expectations for the child's future aspirations are all factors found to be common features in families whose children demonstrate good academic performance (Grace, Jethro and Aina, 2012). Parents' inability to work closely with children, assist them with school assignments, and to be involved in children's life results in creation of a home environment that provides none or low education expectations for children. As a consequence, the children in such families may lack education aspiration and, therefore, their academic achievement is much different from those children whose families are more involved (McDermott, 2006). Consistent with numerous studies of the dependency between children's academic success and parental involvement in educational process, the study by Taningco and Pachon (2008) supports the idea of positive effects of the

expectation on children's educational progress of underrepresented minority children, who have a lower level of academic accomplishments in comparison with peers of the majority. The study concludes that education and parental expectations of Hispanic mothers have consistently positive effects on children's academic achievements (Taningco and Pachon, 2008).

Research on collaborative learning involving adults and their children has also demonstrated a positive effect on children's learning process. Not only do children tend to succeed in problem solving in such experiments, but collaborative educational programs seem to have a positive effect on parent-child relationships, i.e. collaborative learning helps parents to better understand their children and develop closer relationships (Lin and Liu, 2012). Thus, collaborative learning has a positive influence on children's success as well as on family dynamics. Parents' involvement in their children's academic life is a powerful influential factor for their accomplishments (Grace, Jethro, and Aina, 2012).

Computer literacy is vital in the modern world. An increased use of computer technology at home has been actively supported in an education system through federal funding and regulations including directing over $700 million into technological advancement in schools in 2002. One of the programs of President Obama's American Recovery and Reinvestment Act of 2009 is the "Enhancing Education Through Technology Recovery Plan". It provides additional financing to the US Department of Education with particular focus on technological development in schools. Over two billion dollars has been invested into education system through the "Enhancing Education Through Technology" (ED-TECH) State Program between then and the year 2010 (US

DOE, 2010a). The U.S. Department of Education describes the purpose of the ED-TECH program as “to improve student achievement through the use of technology in elementary and secondary schools” with an ultimate goal for all students “to become technologically literate by the end of the eighth grade” (US DOE, 2010b). Today, children’s homework more often consists of assignments requiring the use of computer and internet. Therefore, it is almost necessary for a household with children to have a computer and internet access.

According to Pew Research Center, Hispanics are one of technologically disadvantaged groups in the USA (Livingston, Gretchen, Parker and Fox, 2009). The Hispanic group is the one lacking computer and internet access more than any other ethnic group in the nation (US Census Bureau, 2009). Therefore, this particular ethnic group tends to be more incapable of providing adequate assistance to their children along their educational path, especially when it involves computer technology. Moreover, the technological gap between Hispanics and other ethnic groups in the USA influences their education and employment opportunities.

As the school system increases the introduction of computer-based technologies to children, the load of school work taken home by the children is shifting towards a greater use of computers. However, Spanish-speaking parents are not always equipped with technology to provide sufficient help. The U.S. Census Bureau reported internet usage for households (US Census Bureau, 2009): almost half of Hispanic householders (47.2 percent) live with no internet at home (Figure 1). This number for the Hispanics is greatest when compared to other ethnic groups.

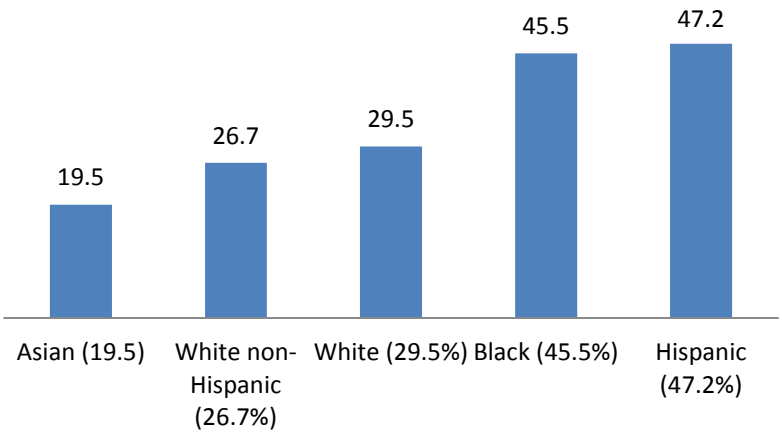

Figure 1: Lack of Internet for Households. Source: U.S. Census Bureau, 2009.

A similar distribution is demonstrated by the U.S. Census Bureau's report on internet usage for individuals three years and older (US Census Bureau, 2009). It shows that only 57.4 percent of Hispanic individuals live in household with internet access. Although this number is above 50 percent, it is necessary to take into consideration that the statistical age of the population ranges from three years old to over 65 years old. And yet, the percentage among Hispanics is lower than in any other ethnic group (Figure 2).

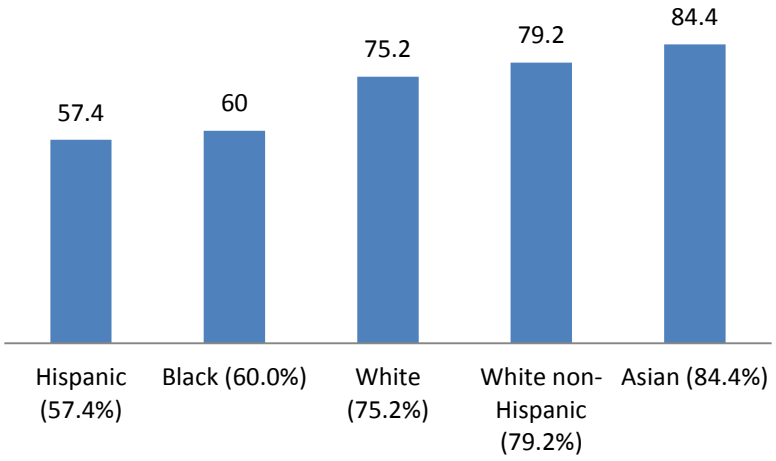

Figure 2: Internet Usage for Individuals Three Years and Older. Source: U.S. Census Bureau, 2009.

The data demonstrating that the percentage of people with internet access is lower among Hispanics than other groups supports the claim that the problem of digital divide exists for the Hispanic population. However, digital divide is a consequence of structural violence that assumes economic, political, legal, religious and cultural structures preventing people or social groups from achieving their potential (Farmer, 2001). Because of poverty, the less financially supported groups (such as Hispanics) are limited in their efforts to improve their life. Thus, structural violence also effects the ability of Hispanics to gain internet access and computer knowledge. Paul Farmer explains that choices made by people throughout their life course are shaped by various factors including poverty (Farmer, 1996). Therefore, the socioeconomic status of Hispanics deprives them from improving their life and acquiring necessary knowledge and resources to progress in life. The digital divide will never "bridge" as long as poverty and related problems exist.

Research conducted by Pew Hispanic Center demonstrates some improvement of the situation. For example, it was reported in 2006 that 31 percent of Hispanics without a high school diploma go online, while this number increased to 41 percent in 2008 (Livingston, 2009). However, this data does not necessarily prove the availability of internet and computer in households – modern cell phones are designed to accommodate internet access. Even though the increase in internet access among Hispanics over the last decade provided by the Pew Research Center demonstrates reduction of the "technological" gap, the digital divide still exists especially for the low-income population as well as Hispanics (Mellander, 2007).

Additionally, there is a difference in internet use within Hispanic population based on the origin of individuals, i.e., whether they are native or foreign born. In 2010, the Pew Hispanic Center provided statistics demonstrating that 85 percent of native-born adults use internet, while only about half (51 percent) of foreign-born do so (Fox, 2010). In fact, such difference is especially notable among first-generation immigrant Spanish-speaking adults and their teenage children (Tripp, 2011). Thus, not only does the technological gap exist for the Hispanics as a group but it is also clearly distinct for the immigrant adults within this group.

The technological differences between various ethnic groups in the country and Hispanics are the outcome of the structural violence resulting in unequal access to education and economic opportunities (Rivera, 2008). The lack of computer knowledge among Hispanic adults decreases their ability to provide sufficient assistance to their children when technology is involved. Moreover, this results in decreasing the future educational opportunities for those children. The first-year college students of Hispanic origin demonstrate insufficient computer knowledge or are unable to effectively use internet (Mellander, 2007).

Limited knowledge of English language, complexity of modern technology, former manual labor and lack of formal education are just some of the possible reasons for Hispanic adults to lack the desire for computers and internet use (Tripp, 2011). The research conducted by Hector Rivera on MIGH computer literacy courses demonstrates that the majority of Hispanic adult participants report education levels not exceeding high school (Rivera, 2008, 2009). This discovery represents an issue for further observation.

Hispanic parents often face financial obstacles when anticipating being more involved in matters concerning their children's education. Often, the lack of sufficient funds results in financial inability to afford computers and internet access (Rivera, 2007). Moreover, parents often have one or two full-time jobs in order to provide for the family. This, in turn, results in a lack of time for participation in children's educational process. The technological gap for Hispanics is propagated by the cost of hardware and software, necessity to have initial computer education, lack of training and regular practice (Mellander, 2007). The combination of low education level and lack of computer knowledge among Hispanics contributes to their disadvantaged position on the job market.

Lack of computer literacy among Hispanic adults has a negative effect on the family structure. Children often become leaders 'de facto' in immigrant families because they have a better command of English language as a consequence of receiving education in English-speaking schools. They also are the members of the family who have continuous computer training even at the elementary school level (Rivera, 2007). Children who are more technologically advanced than their parents are more subjected to different perception of the role distribution within the family. Thus, parental authority weakens as children's educational level increased, causing distress to healthy family dynamics. Moreover, parents' inability to find a job due to lack of proper English knowledge, education, and computer training intensifies destabilization of parents' status as role models for their children. Therefore, there is not only a need for parents to be more involved in their children's lives and education as they grow, develop and progress in life but there is a need for the parents to increase their own education level, and

thereby, their status within the family structure. There is a need to have a positive effect on children's academic life and decisions (Rivera, 2009).

One way to change this situation is to create community programs capable of fulfilling those gaps. Educational programs for Hispanic adults in their native language providing computer training can serve as effective means for the parents to get involved in children's academics (Rivera, 2009). Providing Hispanic speaking adults with computer education also helps to facilitate a better attitude towards technology. For example, a positive change is noted in Hispanic adult women's perceptions of the internet and computers upon taking advantage of education computer services provided by a community center (Hernandez-Limon, 2009).

Lower education levels, few economic opportunities and resources are exacerbated by lack of computer knowledge that is essential in the 21st century. More jobs now require basic computer knowledge, and more companies and agencies transition to online environments. As schools incorporate technology use in their academic programs, people seeking employment face a necessity to obtain at least basic computer skills. Hispanic population seems to have a particular need for computer knowledge that would increase their employment opportunities and facilitate their status of a positive role model for their younger generations.

Educational programs for adults have a positive effect on parents' involvement in children's lives and education as well as participating in community. All of these factors stress the necessity for the creation of a computer literacy program that would fulfill the needs of the population that needs it the most. This, in particular, is related to the

Hispanic population of Houston area because the numbers of Spanish-speaking Houstonians are rapidly growing (City of Houston, 2012a), thereby, increasing the gap.

The Hispanic population is a fast-growing ethnic group in Houston. The graphic below (Figure 3) is constructed using the demographic data provided by the city of Houston national census. It provides a visual comparison of the city's demography based on the data covering the last four decades (from 1980 to 2010). The percent of Hispanics in Houston has increased from 17.6 in 1980 to 27.6 in 1990 to 37.4 in 2000 and almost to 44 percent in 2010 (City of Houston, 2012a). The basic census data comparison of 2000 and 2010 Census demonstrates the decrease of the White population decreased by 10.6 percent, the Black population decreased 0.4 percent while the Hispanic group increased by 25.8 percent. The Asian population has also demonstrated an increase (21.1 percent). However, the total percentage of Asian population in Houston was 5.5 percent in 2000 and 6.1 percent in 2010; the Asian group includes American Indians and Alaska Native, Native Hawaiians and Other Pacific Islander populations (City of Houston, 2012b). Therefore, the increase of the Asian population in Houston is not as significant to this study in comparison with other ethnic groups, i.e. the Hispanics.

However, an increased number of Hispanics in Houston area forms a potentially larger group of prospective students for MIGH. This also means that Hispanic communities are expanding geographically and, therefore, providing more extensive area for MIGH to target and open new educational centers.

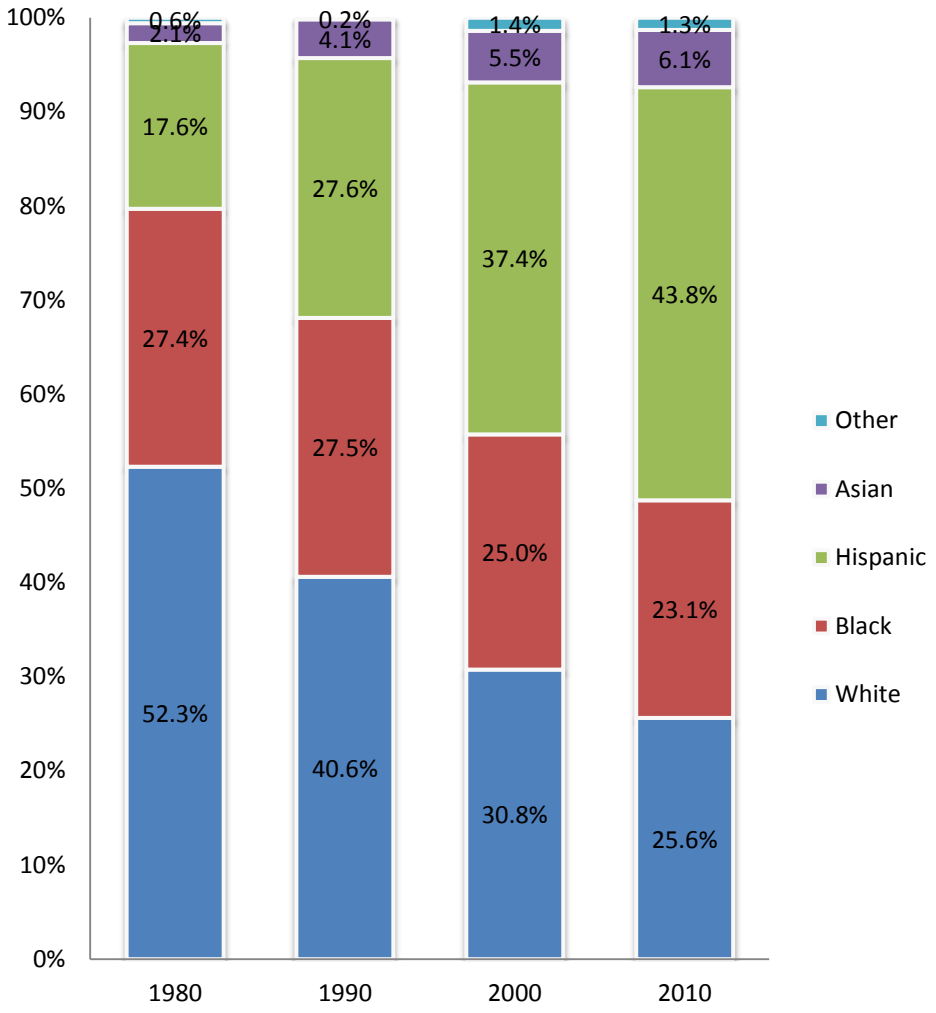

Figure 3: City of Houston – Demographic Data, 1980 – 2010.

Programs providing additional education to adults serve as a source of knowledge as well as efficacy to help parents encourage their children's education (Shiffman, 2011). Shiffman identifies a number of opportunities that are facilitated by the connection between the adult education experience and child's experience at school:

- Strengthening the parental role in a child's learning,
- Interacting with a child's school, and
- Communicating values and expectations for educational persistence.

The computer literacy classes offered to the Hispanic adults in the Houston area by MIGH are an example of a program attempting to satisfy these three requirements. The goal of the program is to increase computer knowledge level among Hispanic population. Computer literacy courses are taught in Spanish and provide the basic computer skills as well as information necessary for family development and community improvement. MIGH's program gives Hispanic parents a chance to advance their own education level through on-line courses and be positive role models for their children. In other words, it is helping parents positively influence their children's academics by means of personal example (Rivera, 2007; Lopez, Kreider and Coffman, 2007).

Rivera's research conducted on MIGH's computer courses during 2007-2009 demonstrates positive effect on participants' computer skills and attitudes. Upon completion of the program, a majority of participating Hispanic adults demonstrate an increased self-efficacy when asked about their confidence in using computers and different software. The majority of participants expressed confidence that the program will enable them in assisting their children with homework assignments involving computers and internet. Rivera's studies indicate a 30 percent increase in parental involvement in children's homework requiring computers. Over 90 percent of participants indicate aspiration for their children to have a degree from a higher education institution (Rivera, 2007, 2008, 2009).

The program offered by MIGH serves as a good example of a way to educate Hispanic parents and provide for their involvement in their children's life, school and community. Moreover, it is a great way to help parents maintain and improve their status as a role model. The positive effect of computer literacy program developed by MIGH

demonstrates that it is necessary to expand the program into other regions in order to reach more parents and influence more families and more young minds.

MIGH Program Description

The Mexican Institute of Greater Houston (MIGH) is a non-profit 501(c)3 organization founded in 1991. It provides technical services to low-income Spanish speaking families in the Greater Houston area. Besides providing low cost services such as photocopies and passport photos necessary for the Mexican consulate, MIGH has also developed a relationship with the Republic of Mexico that granted MIGH a right to provide Mexican Americans with the Power of Attorney, enabling them to negotiate their legal matters in Mexico. Some of the services provided by MIGH to the Hispanics in Houston area include assistance in purchasing and selling property, property ownership and administration, home mortgage loans, property donations, lawsuits, divorces, adoptions, birth certificate corrections, relinquishing inheritance rights, ceding legal rights, alimony, bank account closing, general rights concession, contract signing, professional title validation process, will and testament reading and preparation (http://www.mexicaninstitute.org, 2012).

MIGH brings basic computer technology education to underserved Hispanic families – it provides free computer education in Spanish to low-income adults in the Greater Houston area. According to a MIGH advertising campaign, close to 9000 students have graduated from their program having learned valuable computer skills helping them to become productive employees, parents and community members (Changing Lives, 2011). Not only is the program geared towards obtaining certain computer skills, but it is also making the adult students more attentive to their children's

education. Parents attending the courses at MIGH can more efficiently supervise and motivate their children to do better in school as well as become more effective in communication with the children's teachers and more involved in their schools (Changing Lives, 2011).

MIGH's Board of Directors includes academicians, entrepreneurs, active as well as retired executives who are dedicated to increasing the technological level in the Hispanic community. In September of 2010, MIGH received a two million federal grant to develop a computer training program directed for Hispanics and minority groups in Houston area (Merkl, 2010). This grant was the result of a collaboration of the Texas Learning & Computation Center (TLC) at University of Houston (US) and MIGH. It was awarded by the US Department of Commerce under the Broadband Technology Opportunities Program (BTOP) sanctioned by the American Recovery and Reinvestment Act (Merkl, 2010). BTOP program was developed to decrease digital divide, create jobs, and improve education, health care and public safety in the U.S. BTOP missions organize broadband internet systems, improve and enlarge public computer centers, and promote implementation of broadband service (http://www.ntia.doc.gov, 2012).

MIGH was one of four organizations in Texas to receive this grant. The project entitled "Sustainable Broadband Adoption through Training for Hispanic Adults" was developed by MIGH and UH in order to develop a network of learning centers that would provide basic computer training for Spanish-speaking adults. Besides the 100-hr computer training course in basic computer skills that include use of email, Microsoft Office and internet search, MIGH also offers students information related to the structure of education system and various social and community issues. For example, the Hispanic

adults participating in computer classes are exposed to the structure and function of the school district and classroom, nutritional values, financial planning, domestic violence problems, health issues and nutrition values, “No Child Left Behind” program, and other topics that are identified as critical for family and community development (Changing Lives, 2011; http://www.mexicaninstitute.org, 2012). However, the main function of MIGH is to improve the lives of Hispanics through education. The institute fulfills its mission by providing basic computer education classes in Spanish to low income Hispanic adults in Houston area (Changing Lives, 2011).

The Mexican Institute of Greater Houston has organized a system of over 100 Community Learning Centers that offer basic computer training courses in Spanish. The Learning Centers are located mainly in schools in order to facilitate higher enrollment of parents through their children. The pre-requisite for taking the courses is that Spanish be the native language spoken in the home. The in-class lectures as well as on-line tutorial help are provided in Spanish. Upon completion of the course, the students receive a certificate recognized by the State of Texas. MIGH holds a graduation ceremony for those adults who have completed the course and is open to all family members to attend. Moreover, the graduation is aimed specifically at children so that they can observe their parents being recognized and honored for completing the study program. MIGH believes that graduation ceremonies accessible to the participants’ family members can serve as a motivating factor for the children to continue their own academic path (Changing Lives, 2011). In a way, the Learning Centers have become a way for the Hispanic parents to self-improve through on-line education that facilitates their re-establishment as positive

role models capable of influencing their children to stay in school (Rivera, 2009; Lopez, Keider and Coffman, 2005).

Spanish-language-based computer classes and tutorials provided in the Community Learning Centers allow the participating Hispanic adults to obtain valuable computer skills that potentially can make them more marketable when searching for jobs. The course program, Basic Skills 101, involves 100 in-class hours (two 3-hour classes per week during the course of 16 weeks). Once officially signed up, participants are assigned a password to enter the Virtual University portal in the beginning of the course with the help of a class instructor. The students learn how to set up and use an email account which will be used throughout the course of the class for submitting homework to the on-line tutor. The tutors provide feedback on the homework as well as reports on a student's overall progress throughout the course (Rivera, 2008; Rivera, 2009).

The Basic Skills 101 course provides instruction on how to perform basic computer operations, use email, Microsoft Word, Microsoft Excel, PowerPoint, and conduct search on web. At the same time, the exercises and activities target "the knowledge and application of key educational components for their involvement in their children's education at home and in the school setting" (Rivera, 2007; 2008; 2009). The computer course participants can be asked to contact a child's teacher to determine the expectation from the child in the classroom and what parents can do to facilitate better educational experience for the child at home as well as at school. Parents might be required to help with their children's projects that involve computer applications studied in the class. There are two positive outcomes to such techniques: parents are learning how to use the technology so that their learning experience in class can help their

children; and, parents are obtaining “marketable skills for personal and family advancement” (Rivera, 2009; Changing Lives, 2011; http://www.mexicaninstitute.org, 2012). Many graduates continue their education through such programs offered by MIGH as basic statistics, web page design and other courses including advance computer and health related courses.

One of the long-term goals at MIGH is to expand the program. Although the organization has successfully opened a few Community Learning Centers in the Dallas and the San Antonio metropolitan areas, it is striving to increase the number of Learning Centers in those cities. Besides geographic expansion, MIGH is planning to make the program available to low-income English-speaking populations in Houston.

Chapter Two – Methods and Materials

Data

MIGH provided the researcher with a database in Excel format consisting of the Entrance and Exit surveys for the classes that were administered during the Fall2011/Spring2012 term. The Entrance and Exit data were organized according to Community Learning Centers where the classes were held. All surveys have been developed in Spanish. The answers are provided mostly in Spanish. A total of 566 Entrance and 398 Exit surveys were recorded in Microsoft Excel spreadsheet formatted by MIGH staff.

A number of problems with the database were revealed during the process of analyzing the data format. The information provided was inconsistent. The data provided in the Entrance surveys represented the greatest concern. The initial Entrance surveys were provided to the participants on paper in the beginning of the course. The participants filled them out by hand. Later, these responses were entered into the database by various temporary MIGH employees. As a result, there was an inconsistency in the field names as well as in the variable formats. A number of questions answered by the participants varied from one Community Learning Center to another, and several questions were missing completely. The majority of surveys were provided in Spanish and required additional translation work. In order to overcome at least some of the format problems, the Entrance database was first re-formatted in Excel. In some cases, it was a matter of renaming fields; in others – it required translation of the questions and answers, verification of the field format, or compilation of several fields into one.

The Exit database was uniform due to the fact that MIGH had a partially developed computerized system by the end of the 2011-2012 term which allowed for accurate preservation of responses. Although the Exit database was provided in a well-structured form, it still did not correspond with the information provided in the Entrance database. A number of questions in the Exit surveys data were missing the corresponding questions in the Entrance surveys. The numbers of participants in the Entrance and Exit surveys was not equal. The biggest problem was the lack of identification number allowing for making a connection between particular cases in the Entrance and the Exit surveys which would allow for tracing individuals in order to conduct proper calculation.

The reorganization and reformatting of the database required the use of several computer programs. The database provided by MIGH was initially presented in the Microsoft Excel format. It was captured and organized on MIGH premises according to the layout accepted by the organization for capturing data. Upon the transition of the complete database to the researcher, the database had undergone a number of organizational procedures in Excel. After the re-formatting of the Entrance database in Excel, it was transferred into Access followed by its transition into SPSS. SPSS allowed for verification of compatibility and readability in order to get the database prepared for appropriate data analysis required for this study.

The data in the Entrance surveys was combined and connected to a specific student ID. However, the Exit surveys had no ID numbers identified with particular students at the time of Entrance. Neither did the Exit survey have any personal information allowing making a link between Entrance and Exit surveys based on individuals or particular characteristics. The only option for establishing a connection

between Entrance and Exit surveys was the names of the Community Learning Centers. Thus, all the analysis in this project is based on total numbers of participants per particular center location.

SPSS allowed merging all existing Entrance and Exit files into one database file, although not fully complete. Further work on the database was conducted in SPSS solely by means of running frequency descriptive analysis and crosstabs with Chi-Square and Lambda values to estimate the probabilities of various cases. The results of the database analysis are presented in Chapter Three – Research Findings – in a form of tables and charts constructed by means of Excel and Microsoft Word and based on the statistics generated by SPSS.

Special Approvals and Permissions

A number of permission must be obtained in order to work on this project. The approval for this project was obtained from the Committees for the Protection of Human Subject of University of Houston Division of Research on January 19th, 2012. Based on the request for exempt status, an administrative review of the present research proposal was conducted on January 18th, 2012. In accordance with institutional guidelines, the project is exempt under Category 4. The approval for exempt protocols will be valid for 5 years, i.e. the approval for this project will expire on January 1st, 2017.

In November of 2012, the project also received an approval for modification request for exemption under Category 2 that allows conducting an interview with the Director of MIGH, Mr. López, for interpretation of the research results and explanation of MIGH's idea of success of the program. This interview could not be scheduled prior to the defense of this thesis.

Data Compiling and Organization

The design of the present study consists of comparative analysis of two sets of data - the pre-test surveys completed by the participants of the computer classes prior to taking the class and post- test surveys completed by the participants upon its completion. The study focuses on the following aspects.

- Demographics – gender and age of the participants, marital status, number of children in the family if any, years spent in the USA, area of origin and the education level of the participants.
- Self-Efficacy – evaluation of participants' progress throughout the course of study. This is a comparative analysis of participants' technological advancement and experience, i.e. knowledge of computers and software programs at the beginning of the course compared to the end of the course.
- Evaluation of parents' involvement in the academics of their children – a comparative analysis of parents' participation in children's schools, academics, and homework.
- Drop-Out rate probability – determination of drop-out rate and reasons for it.

Database Variables

The database provided by MIGH consists of two separate folders – Entrance and Exit – that contain survey files in Excel format from each Community Learning Center separately. The surveys are filled out by the voluntary participants of computer literacy course.

The template for the Entrance survey consists of three major areas: participants' background information, prior experience with technology, and involvement in their

children's education. The Exit surveys are lacking any background information but are consistent with the Entrance questions related to the technological self-efficacy and involvement in children's education.

Demographic Parameters

In order to determine the demographics of the sample, the following variables from the Entrance survey were considered during the process of the study.

Name of the school Community Learning Centers where the classes were held – string variable consisting of centers' names - Administrative Annex, Aldine Youth, Avance Dacoma, Avance Magnum, Bob and Jeanne Billa, Bonner Elementary, Bradfield Elementary, Coyle Middle School, Durham Elementary, Edison Middle School, Garcia Leza, Hambrick Middle School, Herrera Elementary, J.R. Harris, Jersey Village, McNamara Elementary, MIGH (10 classes separately on different datasheets within one file), Orange Groove, Rhoads Elementary, Southmayd Elementary, Spring woods, St. Anne, and Worsham Elementary. The names of the centers are the key variable in this study due to the fact that it is the only variable that is in common between the Entrance and Exit surveys, i.e. all surveys include a name of the Community Learning Centers.

Age – numeric variable. The age of the participants varied from 17 to 77 years old. The age variable was recoded into four age categories: 16-24 (young adults), 25-40 (middle adults), 41-61 (adults) and 62 and over. Age groups – is a nominal variable from 1 to 4 that is identified with the age groups. All individuals were placed into those groups accordingly by means of SPSS variable substitution.

Gender – numeric variable where (1) equals to 'male' and (2) equals to 'female'. In some cases, the verbal answers had to be re-coded to numeric on SPSS.

Marital Status – was converted into numeric variable covering 4 categories: (1) - married, (2) - single, (3) - single parent (mother/father) and (4) - other.

Children – whether participants have children – numeric variable where 1 equals to 'have children' and 2 equals to 'no children'.

Area of Origin – numeric variable where 1 equals Mexico, 2 equals Central America, 3 equals South America, 4 incorporated all other regions, and 5 equals to the USA.

Education level – numeric variable that consists of numeric equivalents of 1 through 7 to the following completed educational levels respectfully – (1) Elementary school, (2) Middle school, (3) High school, (4) Technical school, (5) Community college, (6) University and (7) Other.

Years living in the USA – numeric variable – numbers varied from "less than a year" to 70 years. The verbal answers were re-coded into numeric.

Technology Self-Efficacy

The questions pertaining to the technology use were present in both Entrance and Exit surveys. The participants provided the answers in accordance to their own understanding of the subject. That allowed for comparison of answers at the beginning of the course and upon its completion as well as estimation of the progress based on the numbers of answers. All answers to all questions related to technology are numeric. The comparisons were based on the following questions/statements with the corresponding answer variations.

Q: Will this course improve/better your employment opportunities in the future?

A: (1) – Yes; and (2) – No.

Q: Computers make me feel nervous.

A: (1) - I agree; and (2) - I do not agree.

Q: Using computers is hard for me.

A: (1) - I agree; and (2) - I do not agree.

Q: Ability to launch a program in Windows with “Start” button.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to create files in Microsoft Word.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to re-name file or folder name.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to copy/paste information from one device to another.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use World Wide Web to obtain information.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use email.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to open and configure free email account.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to send, receive and reply to an email.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to send email with an attachment.

A: (1) – Can’t do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to open an email message with an attachment and save it.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use Microsoft Word to copy/paste and create documents with pictures.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use Microsoft Excel to create database.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use Microsoft Excel for basic math operations.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use Microsoft PowerPoint to create presentations.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Q: Ability to use Microsoft PowerPoint to paste art and photos.

A: (1) – Can't do it; (2) – Only with help; (3) – Can do it alone.

Involvement in Children's Academics

The question regarding parents' involvement in children's academics were also present in both sets of surveys – Entrance and Exit – and, therefore, can be compared in terms of parents' confidence when involved with their children's academics prior to the program and upon its completion. The answers provided by the participants were provided in verbal form. Therefore, they all were uniformly re-coded into numerical variables. This data are represented by the following sets of questions and answers.

Q: How do you think you can help in your child's school?

A: (1) – Read books to the children; (2) – Help with the projects involving computers; (3) – Help children find books in the library; (4) – Help the teacher with preparation of materials; (5) – Assist during the fieldtrips.

Q: Are you currently involved with helping your children with tasks and homework requiring use of the computer at home?

A: (1) – Yes; (2) – We do not have a computer but I believe I would help if we had one; (3) – We do not have computer at home, but I would not help even if we did; (5) – Other.

Q: Do you think this course will help you help your children with their school projects and other academic activities?

A: (1) – Yes; (2) – No; (3) – I do not have children but I think it would.

Q: How often do you visit your children's school?

A: (1) – Two-three time a week; (2) – Once a week; (3) – Once a month; (4) – Only when the teacher contacts me; (5) – Almost never.

Q: How often do you engage in academics of your children at home? (For example, helping or explaining homework, or teaching vocabulary, o other school-related activities)

A: (1) – Every day; (2) – Twice-three times a week; (3) – Once a week; (4) – Once a month; (5) Almost never.

BTOP Information

Both Entrance and Exit surveys contained the questions related to the BTOP program, i.e. the questions oriented to determine the presence of computers and availability of internet access in participants' homes. Two questions were asked prior to the program and upon its completion: (1) 'Do you have a computer at home?' and (2) 'Do you have the internet at home?' The answers to these questions were recorded in numerical format: (1) – Yes; (2) – No.

SPSS

The data analysis is conducted by means of SPSS (Statistics Package for Social Sciences). The data is run by frequencies, i.e., the number of single cases in study. It is also evaluated by means of Chi-Square and Lambda values obtained through cross-tab allowing for comparison of different cases.

Chi-Square test “tests distribution of a categorical variable against the hypothesis that each category has a specified proportion of cases in the population” (Norusis, 1998). The Chi-Square value of less than .05 is statistically significant because it proves that it is highly unlikely that the event occurred by chance. The Chi-Square value above .05 means that the sample is statistically insignificant because the probability of the occurrence increases.

Lambda statistics indicates the proportion by which to reduce the error in predicting the dependent variable when independent variable is used (Norusis, 1998). Lambda is the value of association. If the value of Lambda is below.3, the associate is weak; the value of Lambda between .36 and .7 indicates a moderate association, while the value of .7 and above means a strong relationship.

Chapter Three – Research Findings

Demographics

Based on the total number of 566 Entrance surveys at the beginning of the course, the available demographic data offers the following illustration of the participants' gender distribution, country of origin and education level.

Participants' Gender

Although six percent of respondents failed to answer the gender question, the majority of the participants (75 percent) at the beginning of the course are females (Figure 4). The percent of male participants is considerably lower than females (19 percent). The majority of the participants are married - 70 percent of males and 73 percent of females are married.

Figure 4: Participants' Gender Ratio

The gender distribution in this study is similar to that of Hector Rivera's. He indicates that over 80 percent of the participants were females for the three consecutive years (Revera, 2007, 2008, 2009).

Children

Five hundred twelve out of 566 participants provided the answers to the questions related to children. The majority of respondents are parents – 83.3 percent of 102 males and 93.9 percent of 410 females. Thus, the majority of participants of the computer literacy program at MIGH are mothers. This finding is consistent with the demographic data analysis provided in Rivera's research (Rivera 2008, 2009).

Eighty percent of 85 males with children indicated to be married while 9.5 percent identified themselves as single or single parent. Seventy-six percent of 380 females with children are married while almost 16 percent indicated to be single or single-mother. Thus, the percent of single-mothers is higher than percent of single-fathers participating in the course.

Participants' Age

A total of 531 of 566 participants in the beginnig of the course responded to the question about their age. Only 20 people fall into the young adult group from 16 to 24 which makes up 2.1 percent of the studied sample. Roughly 24 percent (230 people) make up the middle adult group of ages 25-40; 26.9 percent of respondents (259 people) fall into the adult category of age between 41 and 61; and the remaining 2.3 percent (22 respondents) make up the retirement group of 62 years of age and older (Figure 5).

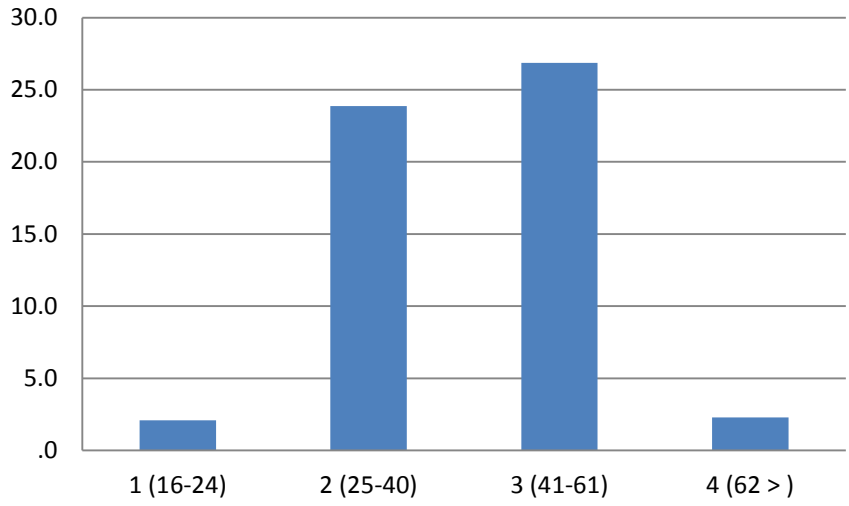

Figure 5: Age Distribution

The average age of the participants is 42 with a Standard Deviation of 10.5 demonstrating a wide range of age. The geatest number of respondents fall into the categoris of 25-40 and 41-61 years of age. According to the PewResearchCenter, “the average age for U.S. mothers who had their first baby in 2006 was 25” (Livingston and Cohn, 2010). This means that these two age groups combined (25-40 and 41-61) are expected to consist overwelmingly of parents. Therefore, this once again demonstrates that the majority of participants of MIGH’s program are parents which is consistent with the findings of Hector Rivera (2007,2008,2009).

The percent of females in each category is predominately larger than of males in the categories of young adults, middle adults and adults. However, there is an even percentage and number of male and female participants in the category of people of retirement age.

When comparing the percentage of female and male participants in each category separately (Figure 6), the data show that the percent of females in the Middle Adult and

Adult categories is very close (45 percent and 48 percent respectfully) while the Middle Adult group among the male participants is smaller than Adult group (34 percent and 52 percent respectfully). Also, the percent of participants in the Retirement group among females is lower (three percent) than among males (10 percent).

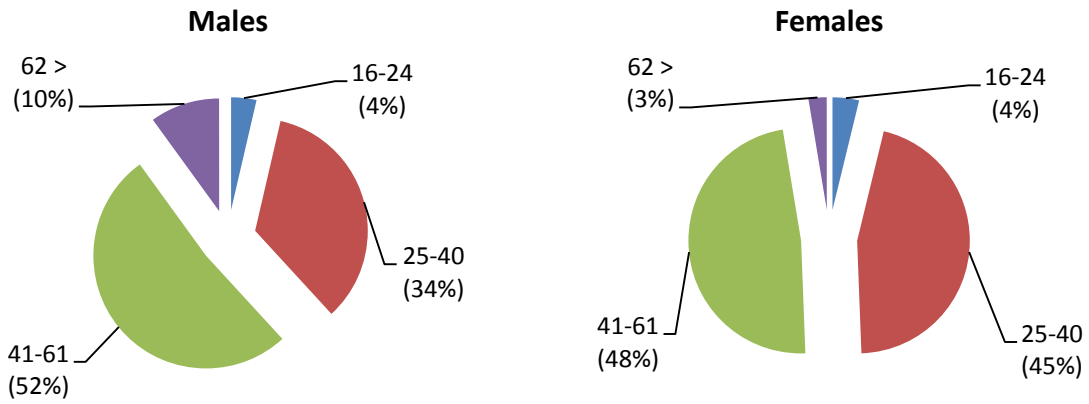

Figure 6: Gender Distribution

At the beginning of the course, the participants were also questioned about the number of years they have been living in the United States. Almost 90 percent of the respondents (508 out of 566 people) provided an answer to this question, identifying a wide range – from less than one year to 70 years. The average number of years people have lived in the United States was determined to be 15 years. This is an interesting discovery, supporting Rivera's work - regardless of the time spent in the U.S, people have not been able to expand their computer knowledge to the level that is offered by MIGH's computer literacy program (Rivera, 2007, 2008).

Participants' Area of Origin

The vast majority of the participants indicated to be from Mexico (73 percent) while the remaining number is divided among representatives from Central America (15

percent), South America (three percent), USA (one percent), and Other origin (one percent). The missing number of answers makes up seven percent of available 566 entrance surveys (Figure 7).

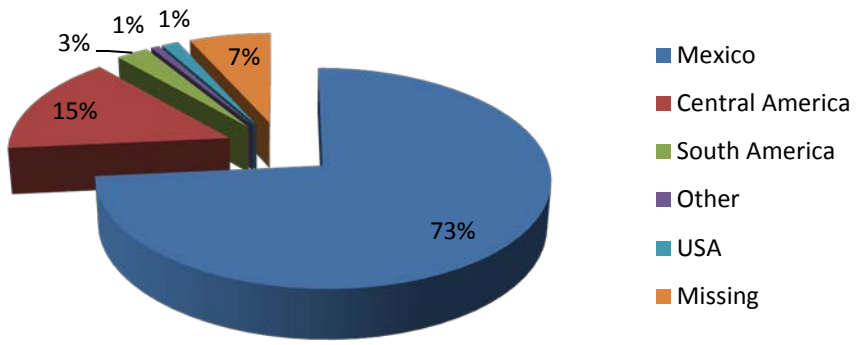

Figure 7: Participants' Area of Origin

The area of origin criteria is consistent with the previous findings of Rivera – the majority of the participants of MIGH's program in previous years were of Mexican origin: 81.1 percent in 2007, 81 percent in 2008, and 78 percent in 2009 (Rivera 2007, 2008, 2009). A slight decrease of participants of Mexican origin is noted – 73 percent during 2011/2012 school year vs. about 80 in Rivera's studies.

Participants' Education Level

With nine percent of missing data, the participants' level of education varies from elementary school to the university level (Figure 8). The majority of participants indicate to have completed some school level. The majority of them indicate that they have graduated from middle school (28 percent) followed by high school graduates (20

percent) and elementary school graduates (19 percent). While 12 percent of the participants claim to have technical school education, only seven percent have university degrees.

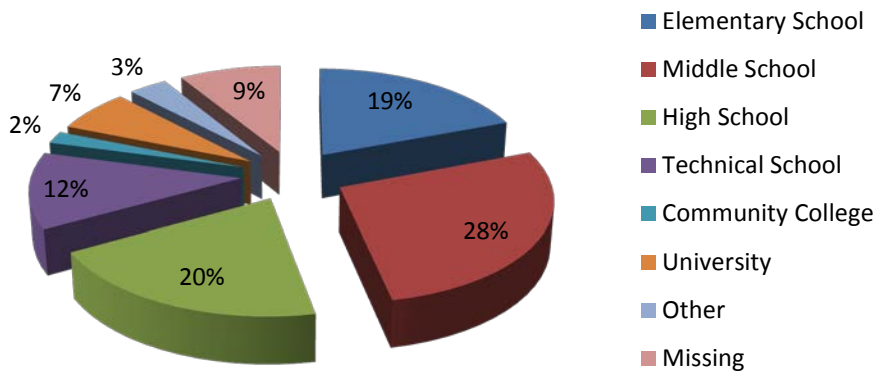

Figure 8: Participants' Level of Education

Out of the 566 participants in the Entrance survey, 499 provided an answer to the question of where they received their education. Overall, 80 percent indicated education received from their country of origin; almost 11 percent indicated education received in the U.S; and only about nine percent of participants had an opportunity to study in both – the country of origin and the U.S. The cross-tab investigation indicates that one third of the people who received education in their country of origin have completed Middle School (34 percent); 23.3 percent indicated Elementary school and 18 percent indicated High school as their highest level of education. The remaining 22 percent of participants indicated to have education level beyond high school that includes Technical colleges, Community Colleges or University. It is interesting to note that High school graduates

form the biggest group among those participants that had an opportunity to study in the U.S. or both countries. And, the percentage of people whose education is above high school level is higher for those participants as well. Almost 32 percent of the participants with education received in the U.S. and 27 percent of participants with education received in both countries indicate to have completed Technical school, Community college or University. These data demonstrate a wide diversity in participants' education level and the places it was obtained. However, it is possible to determine that the majority of the participants received education in the countries of their origin and the level of their education did not exceed High School.

Computer Self-Efficacy

This section provides the results of comparative analysis of the self-efficacy questions provided by the program participants at the beginning of computer literacy class as well as upon its completion. Due to the lack of fully completed Entrance surveys provided in MIGH's database, the number for the analyzed answers of the Entrance surveys varies in different questions. Thus, the numbers taken for analysis at the Entrance are based on the total number of answers and assumed to represent the 100 percent sample. However, none of the questions at the time of entrance have the total number of possible answers (i.e. 566).

The list of the self-efficacy questions at the end of the course were identical to those at the beginning of the course which allows for the comparison with the answers at the beginning. The answers of the EXIT surveys provided in MIGH's database represent a total of 398 answers and are complete.

Future Employment

The participants of the computer literacy classes were asked if they thought that the course would help them to improve their future employment opportunities. Ninety-nine percent of the 525 answers provided at the beginning of the class indicate a positive answer while less than one percent answered negatively. The percent results at the time of exit were very close – 99.2 percent of the 398 participants answered positively and less than one percent gave a negative answer.

Both pre- and post- program results demonstrate that vast majority of participants (99 percent) believe that the content of the course will improve their employment opportunities in the future. This result is also consistent with the findings of Rivera that

demonstrated an increase of positive attitude about usefulness of the course from 93 percent in the beginning up to 97 percent upon completion (Rivera, 2007).

Attitude towards Computers

The participants of the program were asked questions related directly to their personal attitude towards computers. The first one question asked the participants to agree or disagree with the statement "Computers make me feel nervous".

The answer to this question was provided by 504 people who are considered as 100 percent sample. In the beginning of the program, the split between the participants who felt nervous from using computers was inconsiderable: 50.6 percent agree with the statement while 49.4 percent disagree (Figure 9).

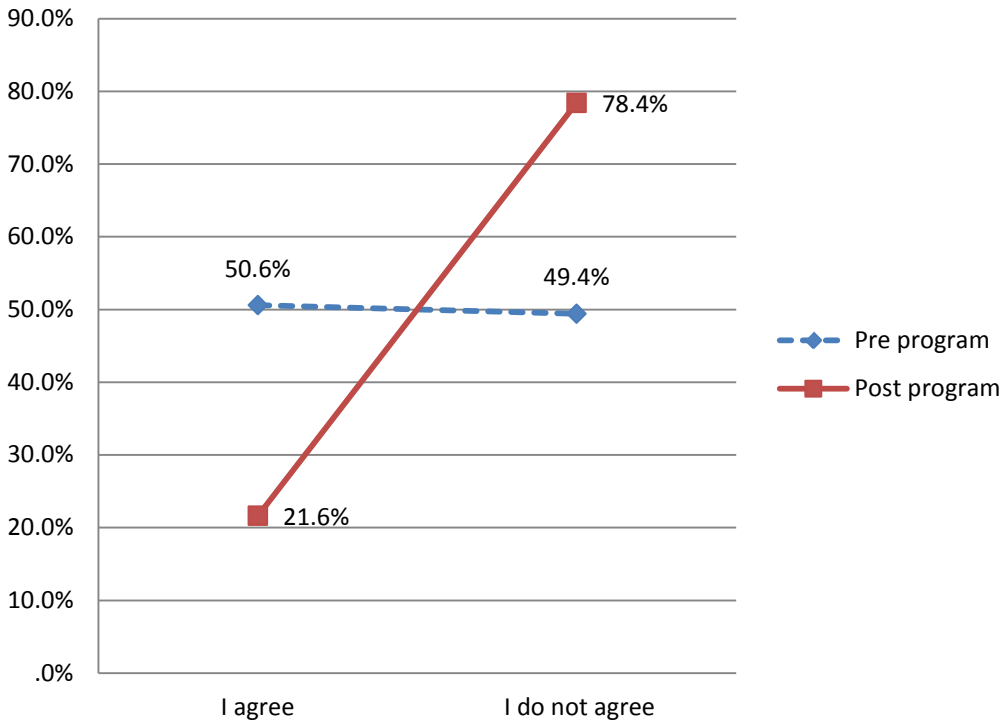

Figure 9: Responses to the Statement "Computers make me feel nervous".

By the end of the program, almost a 60 percent gap is noted – 78.4 percent of 398 answered participants did not agree that the computers make them nervous while 21.6 percent continued to feel nervous with computers upon the completion of the program.

The second question related to the attitude towards the computers asked the participants to agree or disagree with the statement "Using a computer is hard for me". Five hundred twenty-six people provided an answer to this question. Similarly to the previous question, the difference in numbers of people who did and did not find computer to be hard at the beginning of the program was inconsiderable – 48.7 percent agreed and 51.3 percent disagreed (Figure 10). By the end of the program, the difference between participants' comfort level with computers was almost 67 percent - 83.4 percent of participants in the end disagreed with the statement while only 16.6 percent of people still felt that computers were hard for them to use.

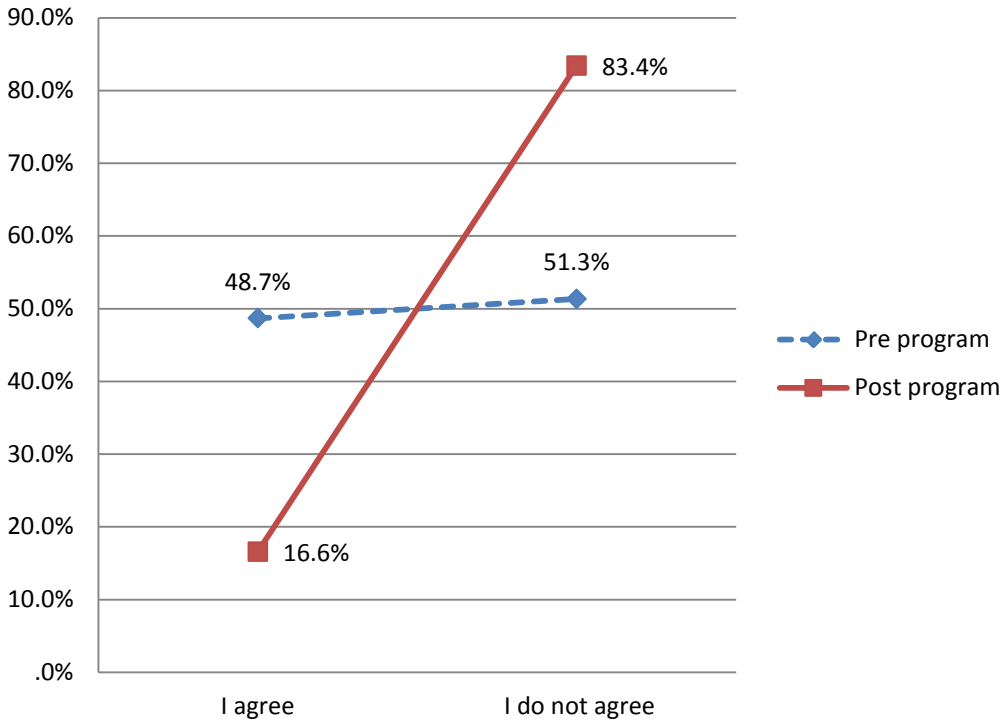

Figure 10: Responses to the Statement "Using computer is hard for me".

It can be concluded that a positive dynamic is noted in participants' attitude towards the computers. Upon the completion of the program, the majority of the participants disagree with the statements that computers 'made them feel nervous' and that 'using computers was hard' for them. The research conducted by Rivera has also demonstrated increase in participants' self-efficacy when questions attitude towards computers (Rivera 2007, 2008, 2009). Thus, it is possible to deduce that the program provided by MIGH increased self-confidence of participants when dealing with computer technology.

Computer Literacy

The next set of questions focuses on participants' acquisition of computer skills. The participants were asked to estimate their level of ability to perform a number of tasks using various computer software on a three-point scale. The possible answers included: "Cannot do it", "Can do it only with help", and "Can do it alone". The following tasks were evaluated: ability to use Windows from the "Start" button, create files in Microsoft, change file/folder name, copy information from one device to another, use WWW to obtain information, use Email (send/receive/reply), open and configure free E-mail account, work with Email attachments, use Microsoft Word, create databases and perform basic mathematical operations in Microsoft Excel, and create PowerPoint presentations.

The first question measures people's ability to start any computer program in Windows with "Start" button (Figure 11). At the beginning of the program, almost half of 549 participants who answered this question indicate that they could not do it while almost 30 percent could it with help and only 25 percent could do it alone. The percent of people who were unable to start a program application from the "Start" button decreased from 45.5 percent in the beginning of the program to none upon its completion. And, almost all participants (98.5 percent) indicated that they were able to complete this task alone.

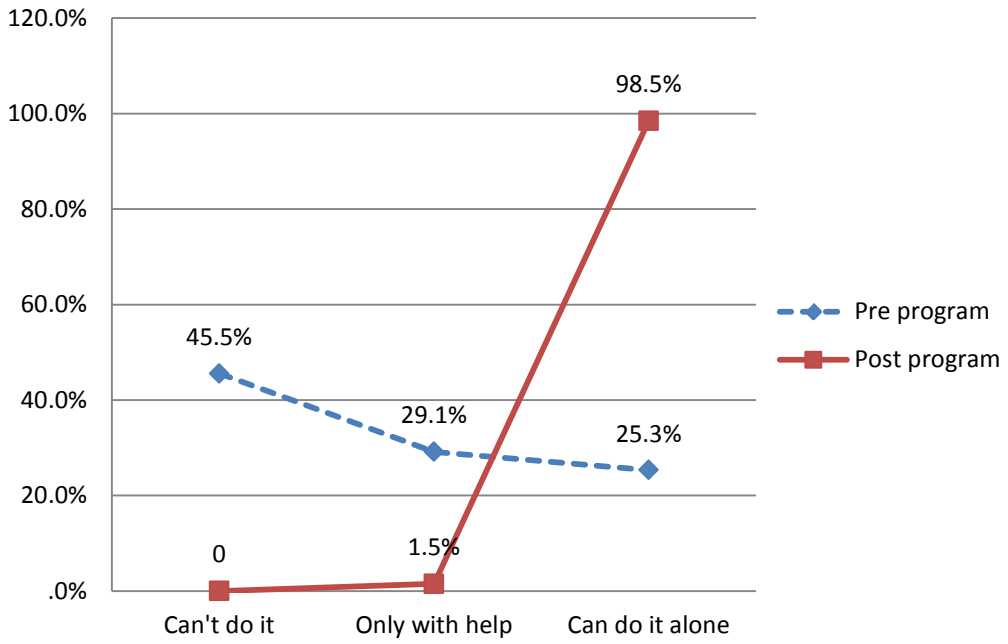

Figure 11: Ability to Use Windows with "START" Button

From 550 people who provided an answer to the question related to the participants' ability to create Microsoft Word files, almost 60 percent indicated that they were unable to do so in the beginning of the program (Figure 12). Roughly 30 percent could do it only with help while only about 10 percent of participants could do it alone. The number of people incapable of creating files in Microsoft Word decreased from 60.2 percent in the beginning of the program to only one percent in the end. And, almost 90 percent of participants indicated that they could perform this task alone.

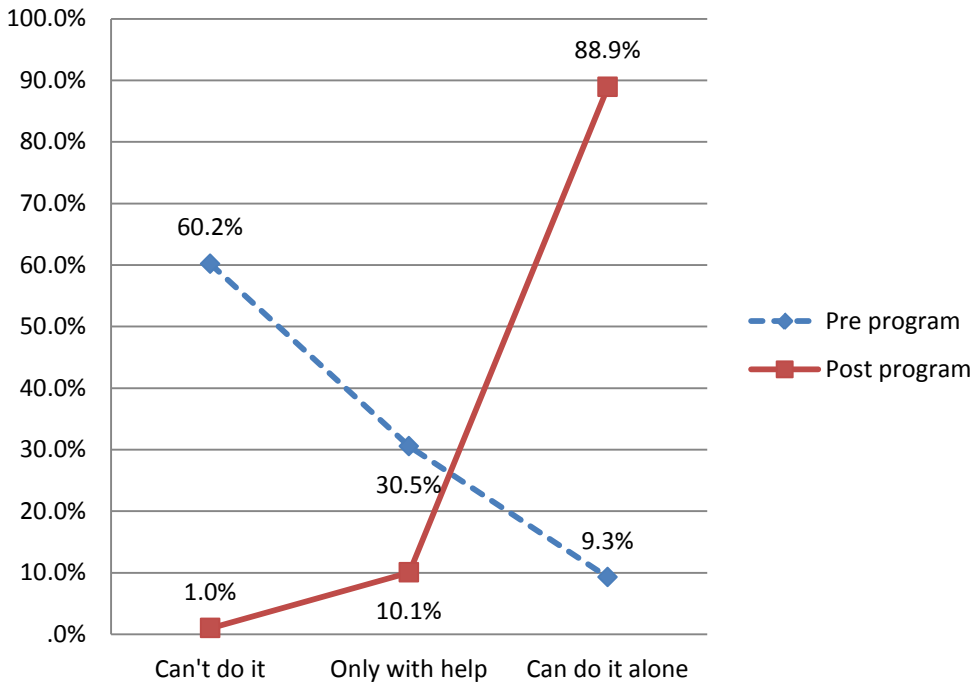

Figure 12: Ability to Create Files in Microsoft Word

Similar to the previous question, the percent of people capable of changing the names of the files and folders increased from 10.9 percent in the beginning of the program to 89.4 percent upon its completion leaving only one percent of people who are unable to complete such tasks and 9.5 percent who are capable of doing it with help (Figure 13). The number of participants who provided answers to this question at the beginning of the program was also close to the previous question – 549.

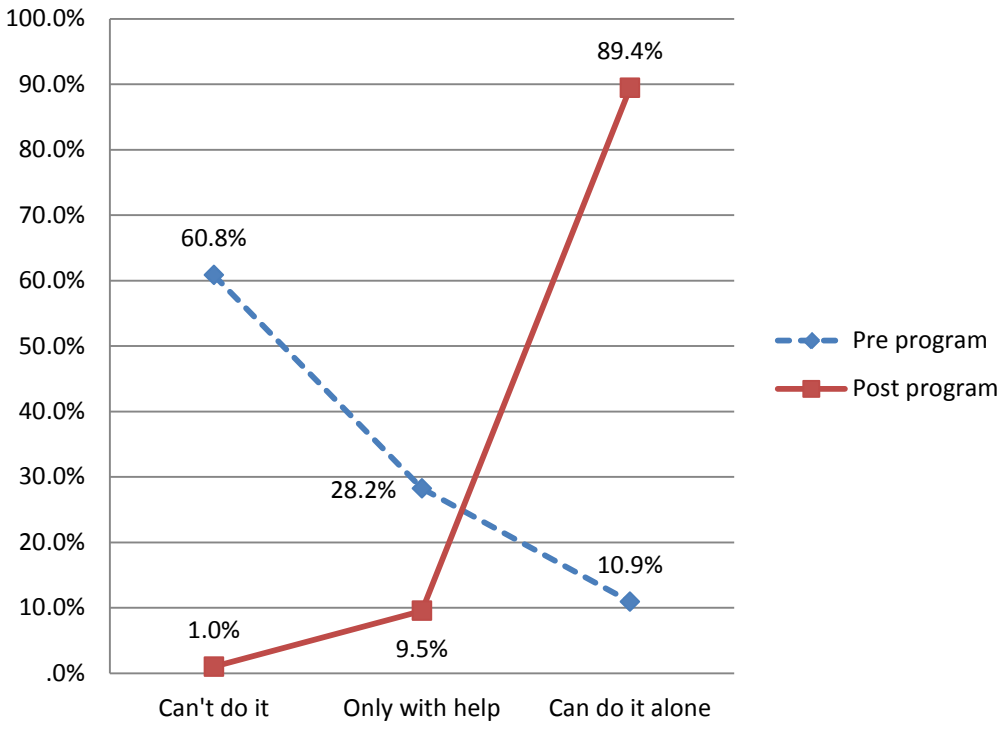

Figure 13: Ability to Change File/Folder Name

When asked to estimate their ability to copy information from one device to another, the percentages at the beginning and at the end of the program were close to the previous answer. Again, the number of answers provided in the beginning of the program was very close to the previous two questions – total of 551. The percent of people incapable of copying information from one device to another decreased from 65.2 to 1.8; while the number of people capable of fulfilling this task had increased from 8.3 to 80.7 percent (Figure 14).

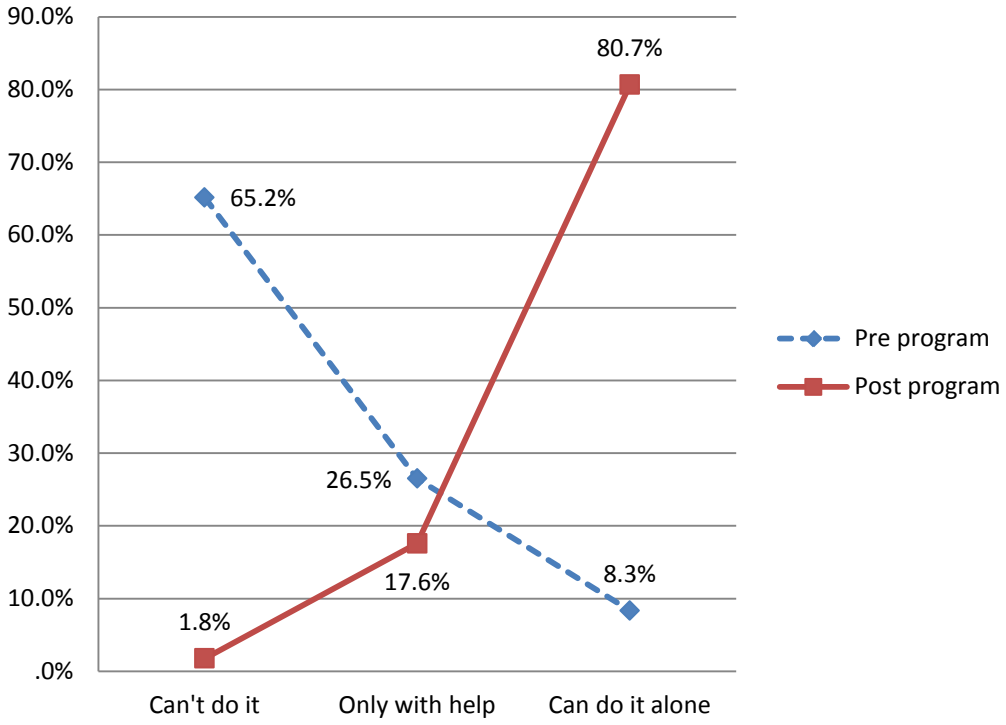

Figure 14: Ability to Copy Information from One Device to Another

The next question asked the participants to determine their ability to use the World Wide Web for finding the necessary information. Almost half of the 548 people who provided an answer to this question in the beginning of the program demonstrated incompetence in obtaining information by means of WWW while 23 percent could do it with help and 24 percent claimed being capable of doing it alone (Figure 15). In the end of the program, 93.5 percent indicated that they could do it alone leaving less than one percent of people who still claimed to be unable to complete this task.

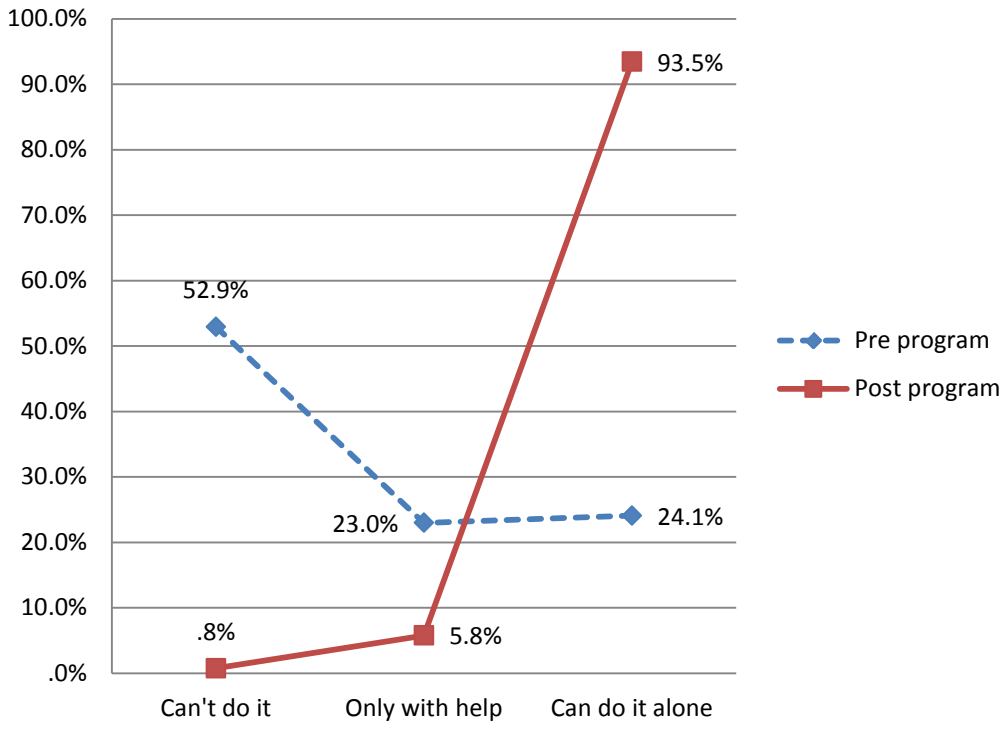

Figure 15: Ability to Use WWW to Obtain Information

The following five questions are focused on participants' ability to use email. The Entrance survey (total of 549 provided answers) showed that about half of the participants were able to use the email: 26.2 percent were able to do it alone while 26.6 percent could only do it with help (Figure 16). The remaining half of the participants (47.2 percent) was unable to complete this task. At the end of the program, the majority (94.7 percent) of the people who remained in the program indicated that they were able to use email without outside help.

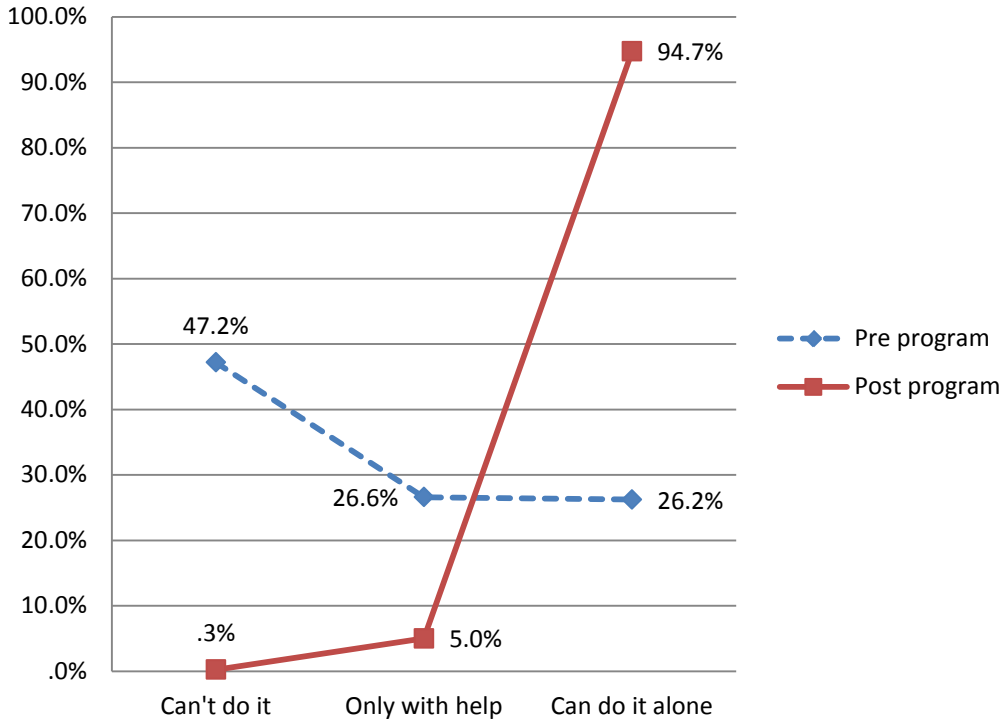

Figure 16: Ability to Use Email

The percent of participants capable of opening and configuring a free email account increased from 10.9 percent in the beginning of the program to 91 percent upon its completion (Figure 17). While 60 percent of the 542 participants who provided an answer to this question in the beginning were unable to open and configure a free email account, the percent of such participants was as a little over one by the end of the program.

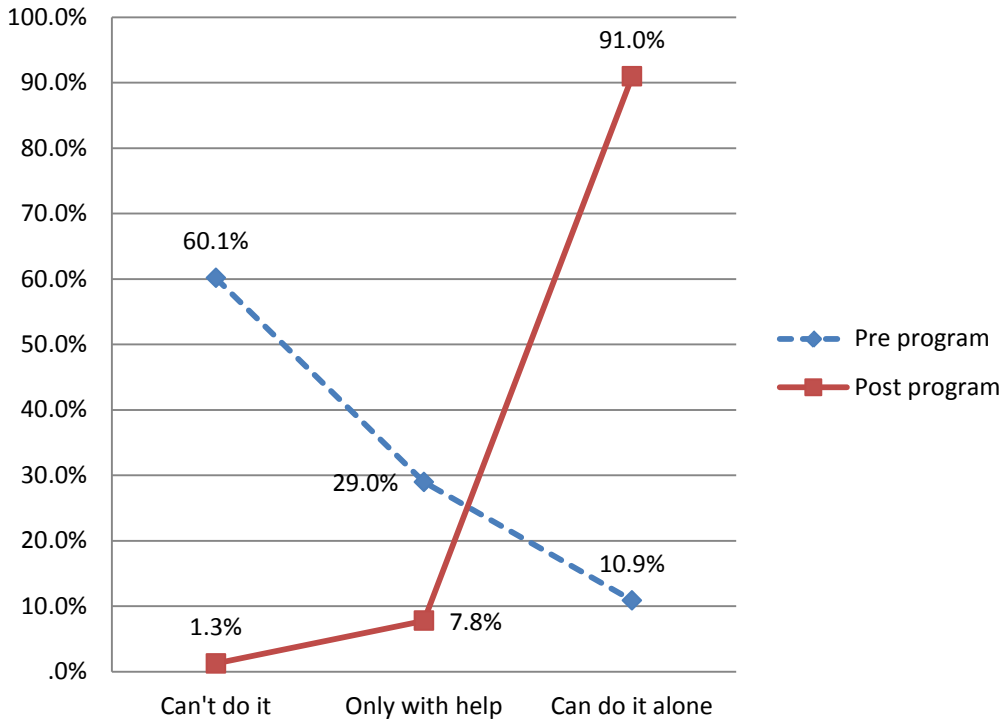

Figure 17: Ability to Open/Configure a Free Email Account

The participants' email skills (send, receive, and reply) are demonstrated to be similar to their ability to use the email in general (two previous questions). Almost half of 551 answered participants indicated that they were unable to perform this task in the beginning of the program and less than one percent was still unable to complete it in the end (Figure 18). The responses in the end of the program indicate similar improvement - 95 percent of 398 responses indicated that they were capable of sending, receiving and replying to an email without outside help.

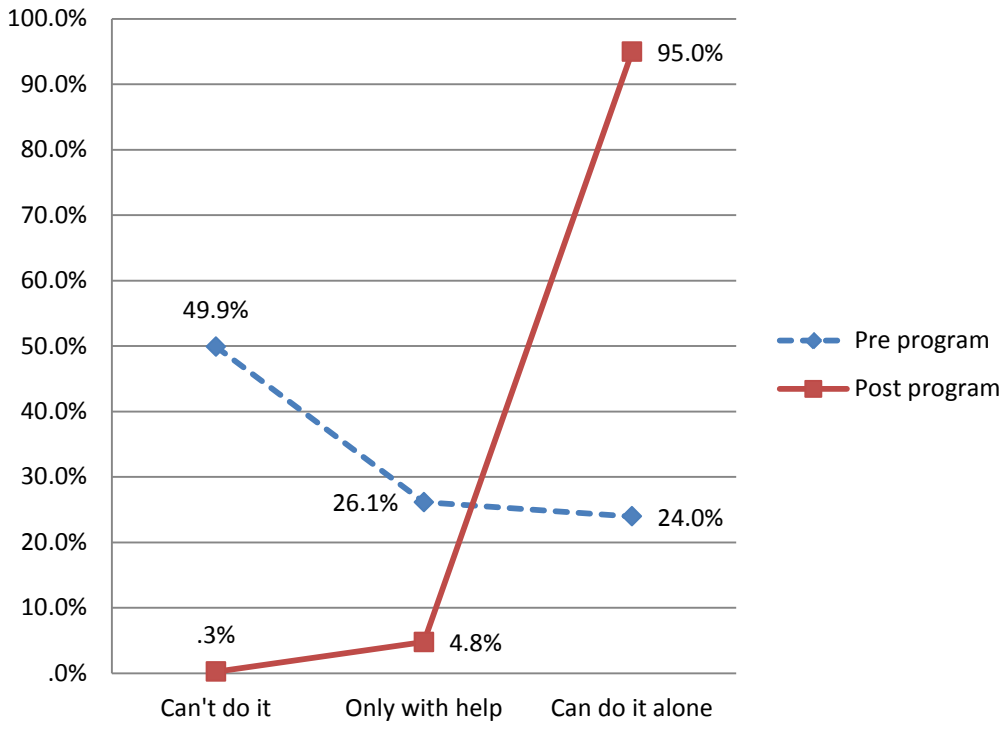

Figure 18: Ability to Send/Receive/Reply to Email

Sending email with attachment is demonstrated as a successful acquisition of the skill but not as impressive as previous email skills. The percent of people who could do it independently went from 8.7 percent (of 549 responses) at the beginning of the program to 77.1 percent upon its completion (Figure 19). Although the percent of those unable to complete this task was minimized from 63 to 1.3 percent, the 77 percent progress marker at the end of the program is much lower than in the previous email-related questions. These results might demonstrate that people experience more difficulties when working with email attachments.

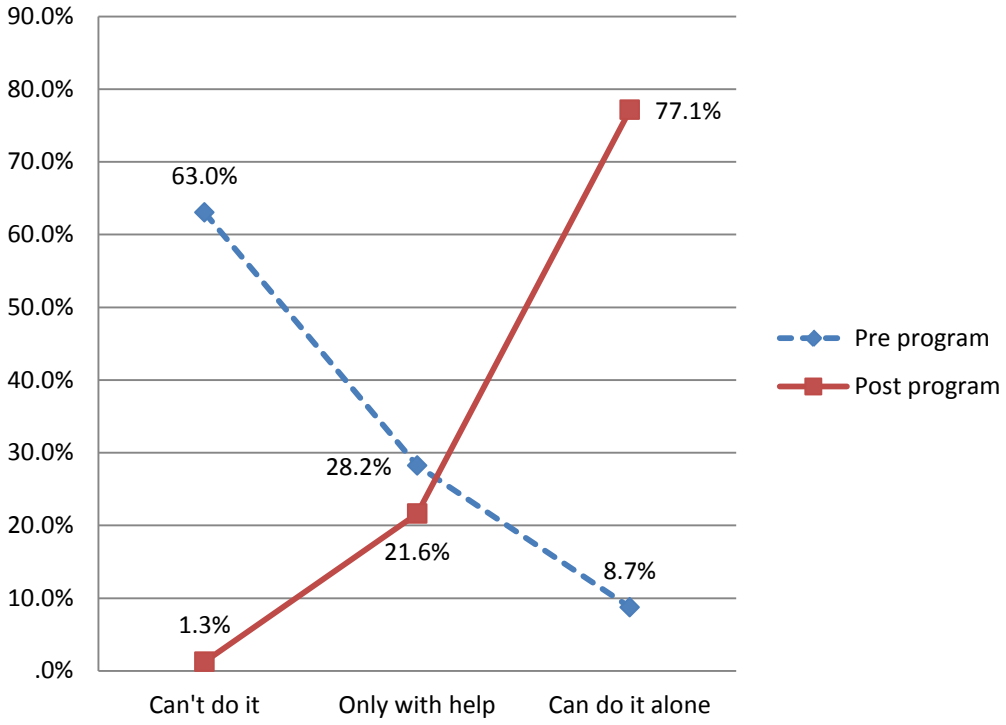

Figure 19: Ability to Send Email with Attachment

And again, similarly to the previous question about participants' ability to send an email with an attachment, the task of opening an email with attachment and saving it seems to be more complicated. Over 60 percent of the 546 answered participants in the beginning of the program indicated to be unable to open the email attachment and save it on the desktop or in designated folder (Figure 20). Almost two percent admitted to still be incapable of completing this task by the end of the program while 77.4 percent demonstrated confidence in doing it alone.

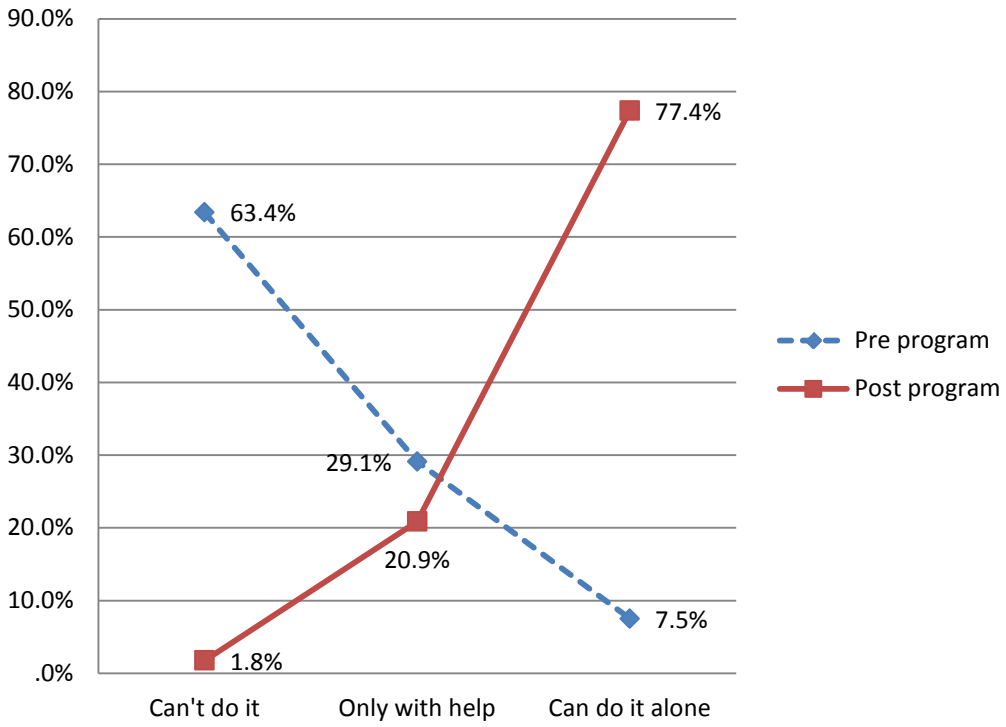

Figure 20: Ability to Open/Save Email Attachment

Overall, the responses to the questions related to email use demonstrate an improvement in the participants' skills. However, based on the percent increase in the questions related to working with email attachments, it is possible to conclude that emails with attachments represent a more difficult task for the participants of the program.

The following set of questions addresses participants' capabilities of performing certain operations in such Microsoft programs as Word, Excel, and PowerPoint.

When asked about the ability to perform such functions as copy, paste and created documents with images in Microsoft Word program, the participants demonstrated a positive progress (Figure 21). While over 70 percent of 534 responded participants indicated their inability to perform this task in the beginning of the program, the majority was capable of completing this task in the end of it. The progress is demonstrated by the 87.7 percent stating they can do it alone in comparison with only 5.2 percent of those who could do it alone initially.

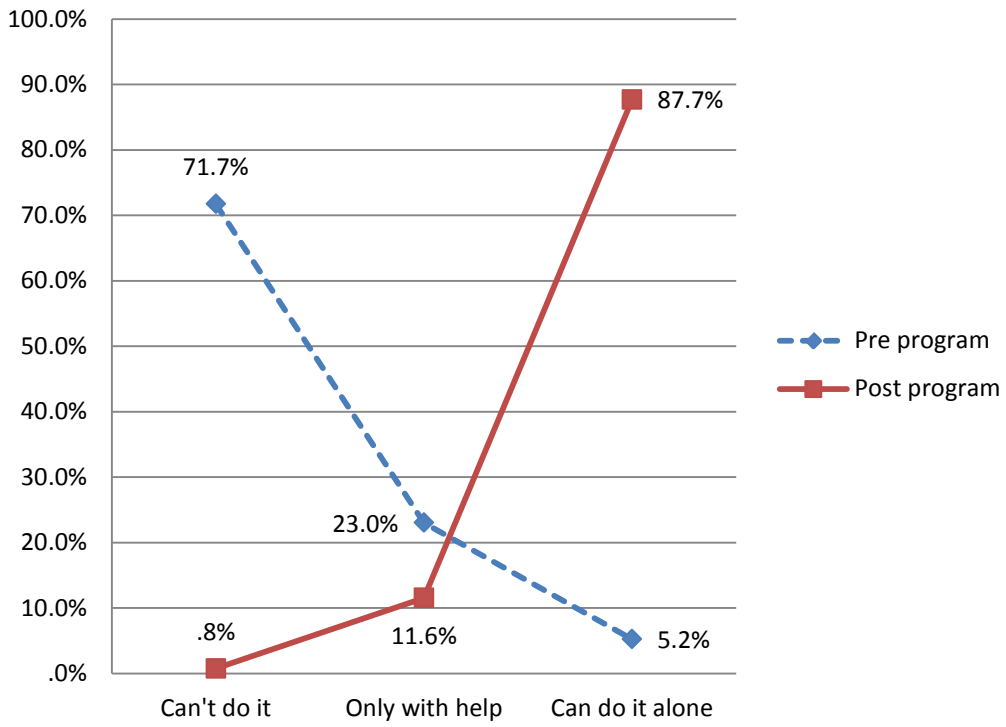

Figure 21: Ability to Use Microsoft Word

The following two questions were focused on participants' ability to use Microsoft Excel program. The evaluation of the acquired Excel skills demonstrates an overall success of the program. While only 3.1 percent of 546 participants were able to create a database in Excel independently in the beginning of the course, almost 83 percent expressed confidence in performing this operation in the end of the program (Figure 22). The numbers of answer to this question are almost opposite – the percent of people incapable of performing this task in the beginning decreased from 73 percent to three percent in the end of the program.

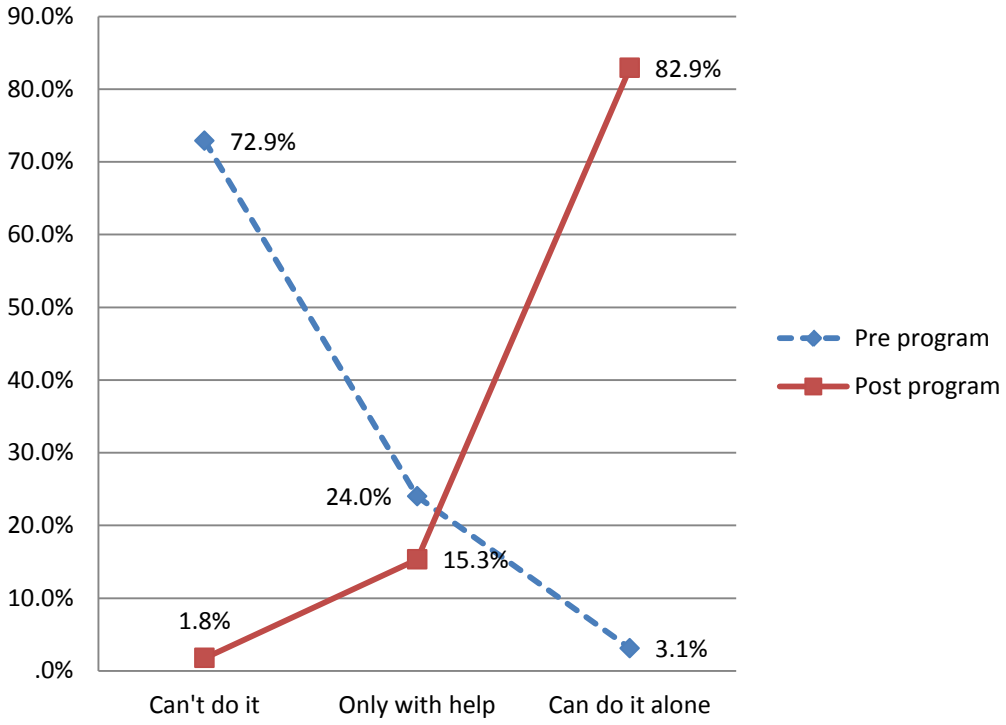

Figure 22: Ability to Use Microsoft Excel to Create Database

The ability of people to use Microsoft Excel for basic mathematical operations indicates a lesser improvement than the ability to create a database (Figure 23). The numbers of people who could not use mathematical functions decreased from 77.4 percent of the 549 answered participants in the beginning of the program to 2.8 percent in the end. However, the number of those who can do it without help increased from 2.7 at the beginning to 70.1 at the end of the program which is lower than the previous answer.

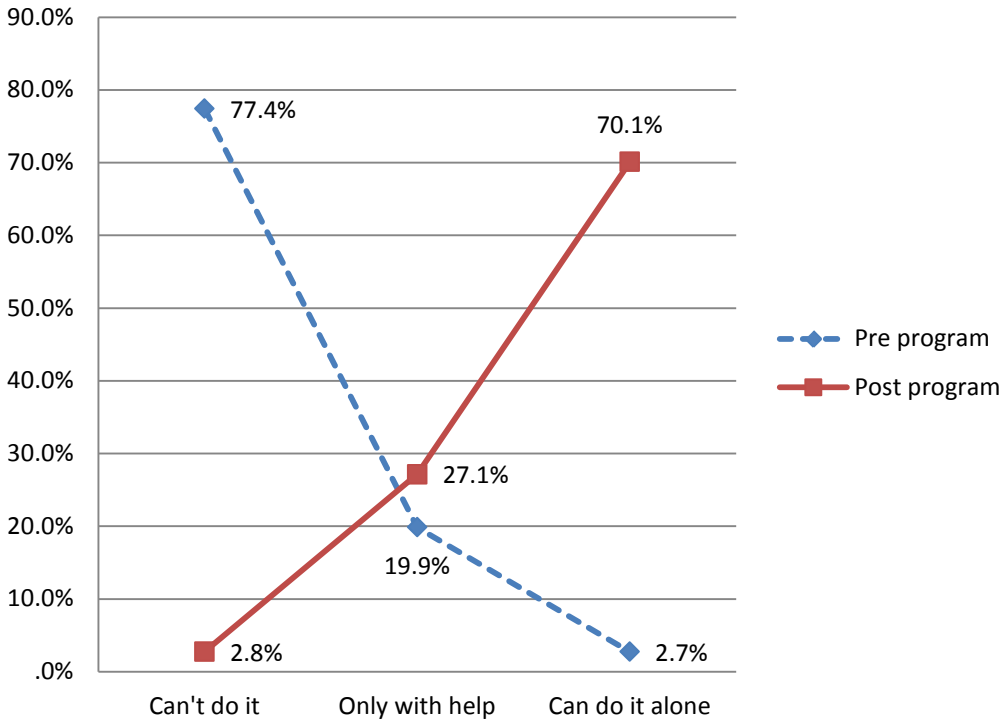

Figure 23: Ability to Use Microsoft Excel for Math Operations

The overall positive progress in acquisition of Microsoft Excel skills has been demonstrated by the participants by the end of the program. However, the performance of mathematical operations still remains somewhat complex for some participants.

Similarly to the Excel skill, the program results demonstrate overall improvement in participants' ability to use Microsoft PowerPoint. The following two questions are related to the participants' ability to create PowerPoint presentations. While the vast majority (78.4 percent) of the 550 participants who provided an answer to this question could not create a PowerPoint presentation in the beginning of the course, 88.7 percent indicated to be capable of completing this task in the end of the program (Figure 24).

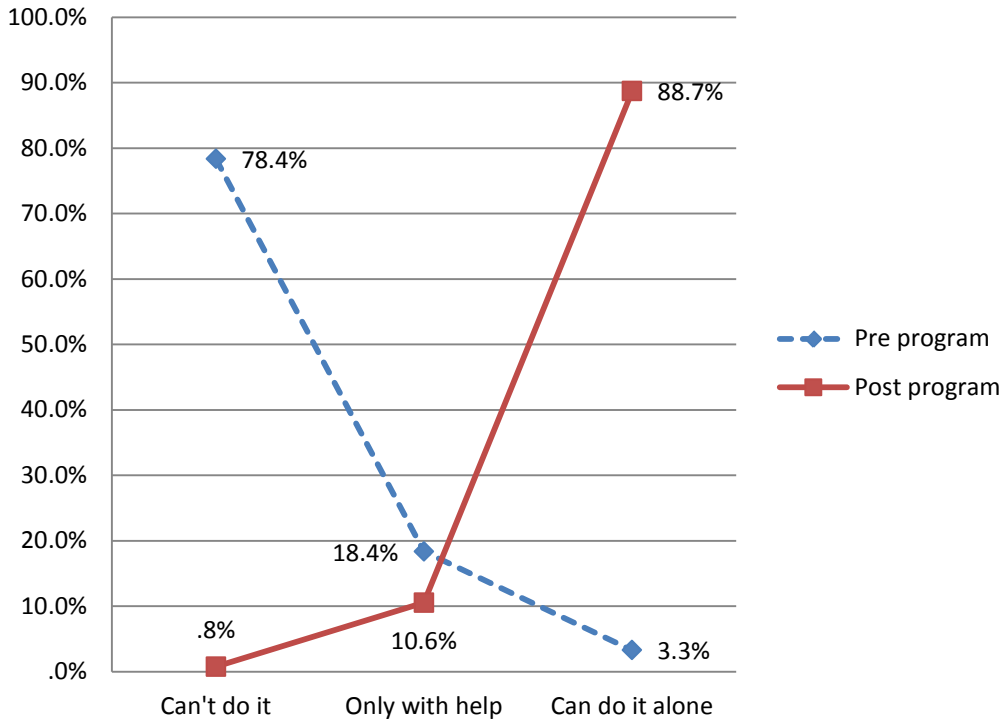

Figure 24: Ability to Use Microsoft PowerPoint to Create Presentations

A similar improvement is indicated by the answers provided to the question related to ability to use art and photos in PowerPoint presentations (Figure 25). The percent of people incapable of doing it decreased from 77.1 percent of the 536 participants at the beginning to one percent in the end of the program. The number those capable of performing this task increased from 3.5 percent in the beginning to almost 90 percent at the end.

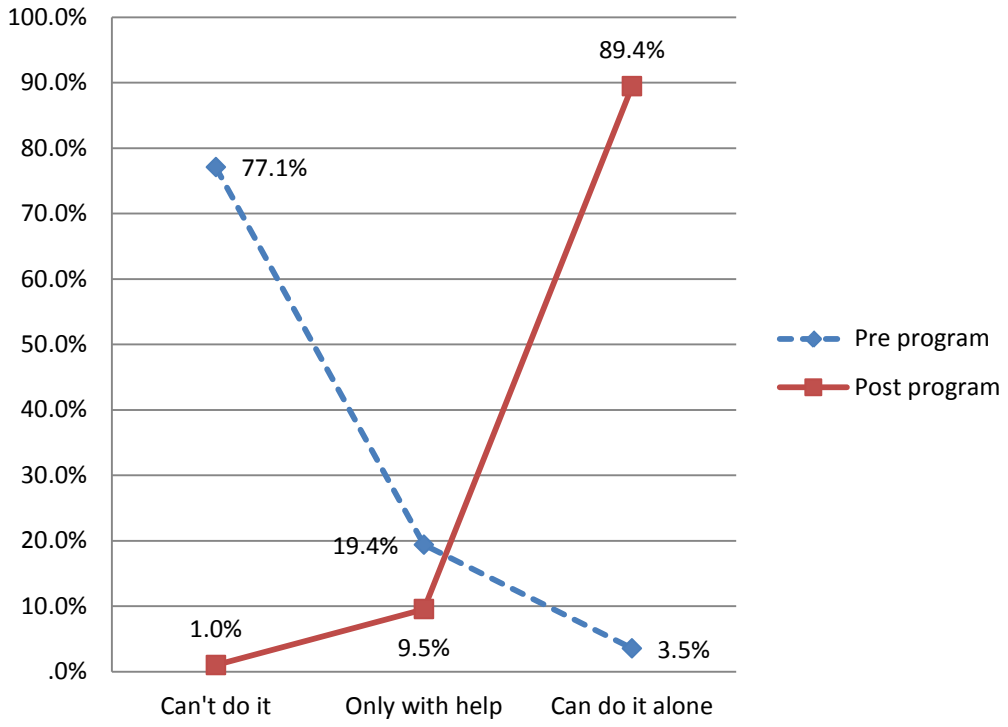

Figure 25: Ability to Use Art in Microsoft PowerPoint

The analysis of the survey questions at the beginning of the program as compared at the end of it demonstrates an overall advancement of participants' computer literacy. By the end of the program, the participants' demonstrated an overall improvement of such computer skills as use of Microsoft Word, Excel, PowerPoint, ability to navigate the

Web and use Email as well as an increased positive attitude towards technology. Similar findings were demonstrated by Hector Rivera (2007, 2008, 2009).

BTOP Results

The following two questions are focused on acquisition of computers and internet access by the participants for home use. These questions are very important in terms of the BTOP program because there are targeted to demonstrate the program's influence in participants' decision making to obtain a computer for home use as well as internet access for home.

The analysis of computer and internet presence in the household indicates 11 percent increase for both categories (Figure 26 and 27). At the beginning of the program, 71.5 percent of 512 participants indicated presence of computer at home; from 398 participants at the end of the program, 82.7 percent marked a positive answer (Figure 26). A similar tendency is noted in the answer for the question related to availability of the internet at home: 60.4 percent of 508 participants had internet at home in the beginning of the program while 71.4 percent indicated present of the internet at home upon the end of the program (Figure 27). The Chi-Square test of the total percent values for the computer availability and internet presence at home at the time of Entrance and at the time of Exit is not significant.

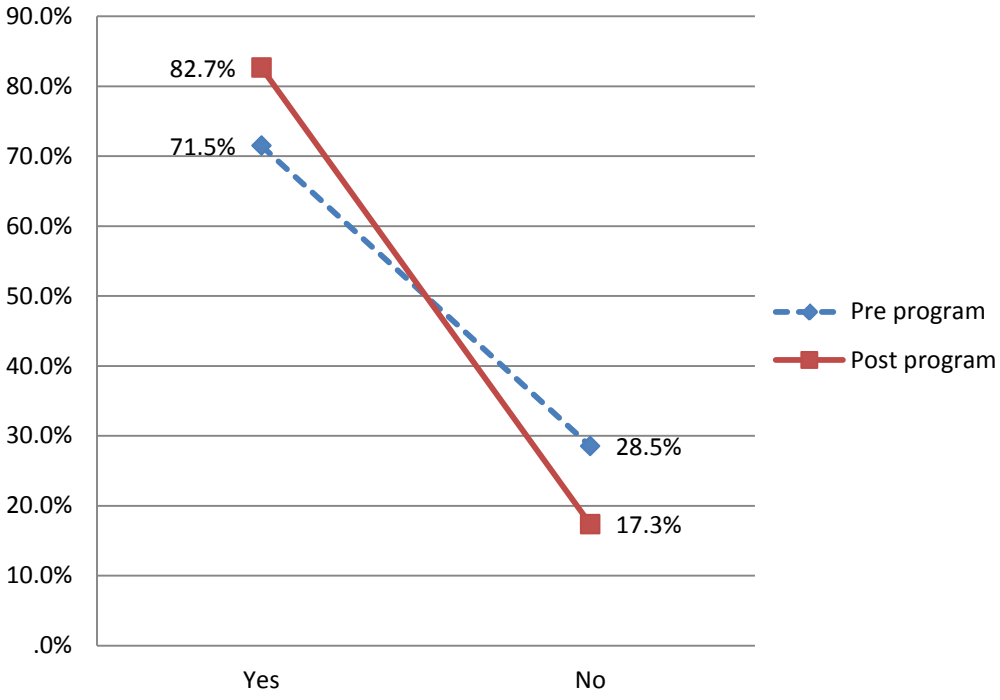

Figure 26: BTOP1 – Do You Have a Computer at Home?

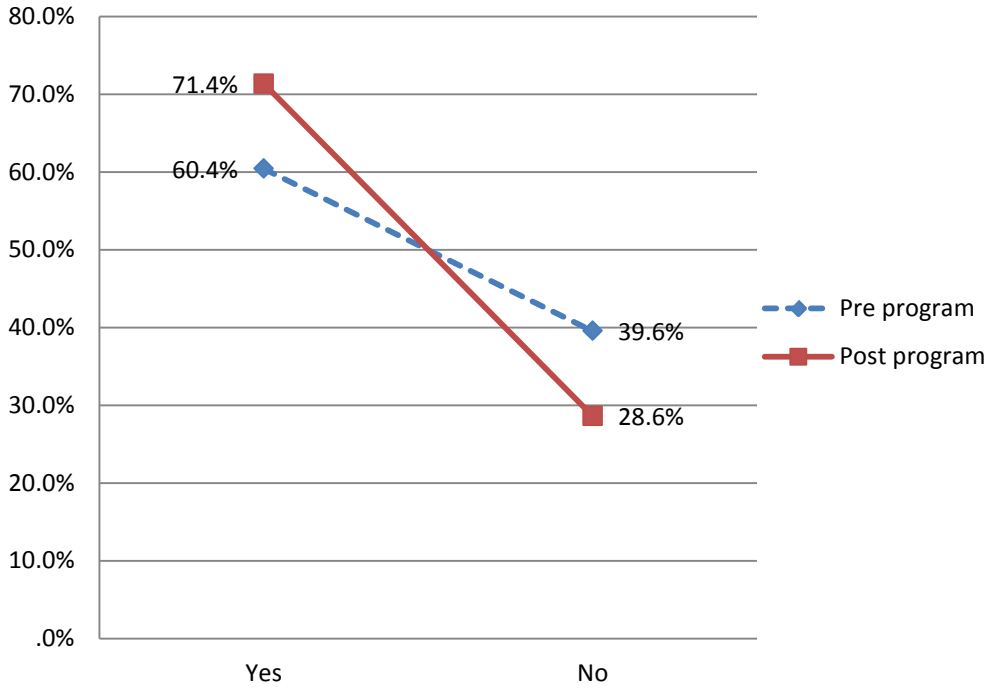

Figure 27: Do You Have Internet at Home?

The 11 percent increase in acquisition of computers and internet for home use may not demonstrate accurately MIGH's program positive influence on people's decision-making in acquisition of the computers and internet access. It might be the result of several shortcomings: the Entrance database provided by MIGH was incomplete; number of participants at the entrance was not equal to the number of participants at the Exit, and absence of matching student ID numbers. The lack of the link between the Entrance and Exit database does not allow for an ability to identify those people who dropped out of the program. With a drop-out of 30 percent, it is difficult to determine who did not complete the program and for what reasons. It can very well be that the drop-out was the result of the fact that people did not have computers and internet access at home. Therefore, considering that the numbers of participants went from 566 to 398 by the end of the program, the 11 percent surplus of people with computers and internet at home might, indeed, consist of those people who did have all these technologies in the beginning of the course.

Children and School Involvement

This section presents the results of comparing the level of participants' involvement in the academic life of their children. A total of 102 males and 410 females indicated having children. That represents the majority of the sample – 512 of 566 participants. In order to determine if MIGH's program had an impact on parental involvement in children's education, both Entrance and Exit surveys included the same questions related to children.

The participants of the survey were asked to evaluate their own level of participation in the activities that involve education of their children and participation in the children's schools. The results of the participants' self-efficacy are presented below.

The first question asks the participants for their opinion on how they can help in their children's school. In order to find the percentages for this question, the responses in Entrance survey had to be recoded due to the fact that they were not presented in a uniform structure in the database provided by MIGH. The participants were given five options to the question with an opportunity to choose any number of answers. The possibilities were: (1) – Read books to the children; (2) – Help children with projects involving computers; (3) – Help children to find books in the library; (4) – Help the teacher to prepare class materials; and (5) – Provide help during the fieldtrips. The result calculations for this question are based on the total number of positive answers from 566 possible participants; the missing and negative responses ('no') are considered as a negative response. The total number of participants at the exit remains the same – 398 people.

The overall level of participants' confidence at the end of the program is demonstrated to be much higher in comparison with the beginning of the course (Figure 28). The majority of participants (95.7 percent) expressed confidence in reading books to children in comparison with 42.4 percent in the beginning of the program; 93.2 percent expressed the ability to help with computer projects upon completion of the program as compared to 22.6 percent in the beginning. More participants also demonstrate confidence in helping in the library, helping the teacher to prepare class materials and provide assistance during school fieldtrips at the end of the program than at the beginning

of it: 30.6 percent vs. 95.5 percent; 26.1 percent vs. 90.2 percent and 28.8 percent vs. 87.2 percent accordingly.

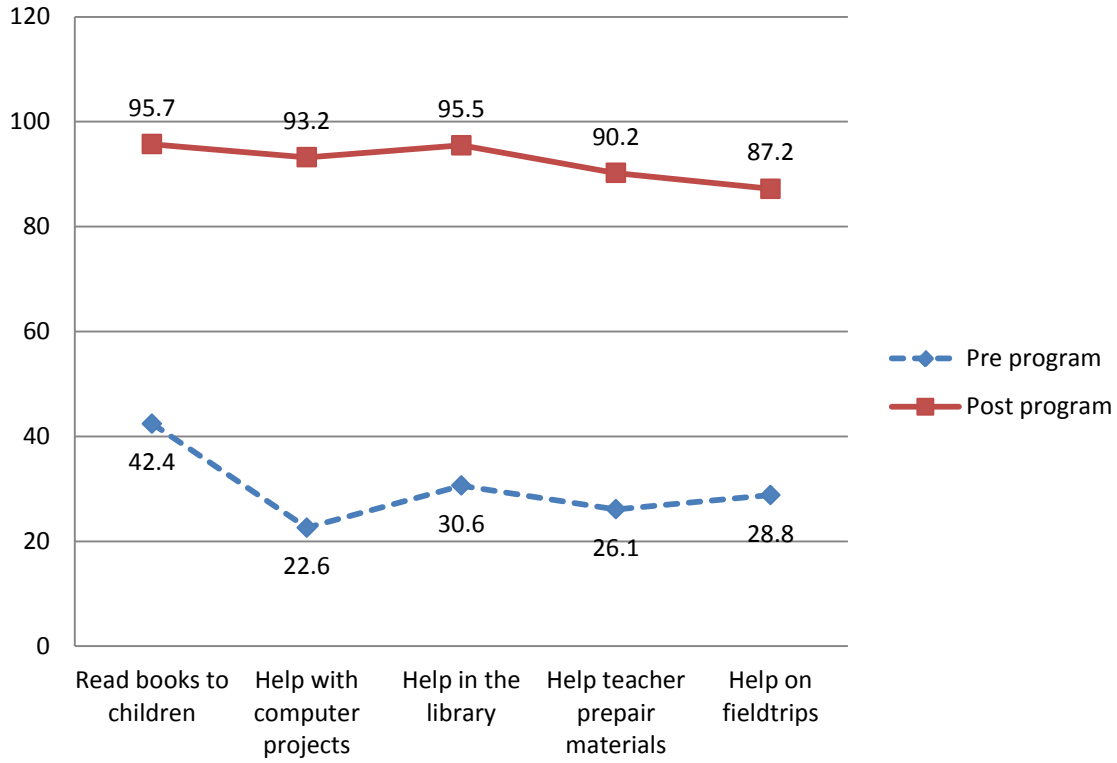

Figure 28: How Can You Help in Your Children's School?

It is possible to conclude that MIGH's program provided the participants with information and knowledge sufficient enough for the people to feel more confident in participation in children's school. This finding is also consistent with Rivera's research (2007, 2008, 2009) but with greater improvement rate, i.e. the final percentages at the end of the program in the current study are higher.

The next question – 'Are you currently involved with helping your children with tasks/homework requiring use of the computer at home?' – is focused on parents' confidence level with computers in relation to children. Four hundred twenty-two

answers were provided by the participants at the beginning of the course with 398 answers at the end of the program.

At the end of the course, the 70.9 percent of the participants indicate that they are involved in helping their children with the homework that involves the use of computers vs. only 28.7 percent in the beginning of the program (Figure 29). Also, the percentage of people that do not have a computer at home and were unwilling to help their children with computer-involved tasks has also decreased from 15.6 percent at the beginning of the program to 4.8 percent upon the completion of the program. It is interesting to note that the percent of people who do not have computer at home but are willing to help their children hardly changed – 22.2 percent at the beginning of the program in comparison with 24.4 percent at the end of the program.

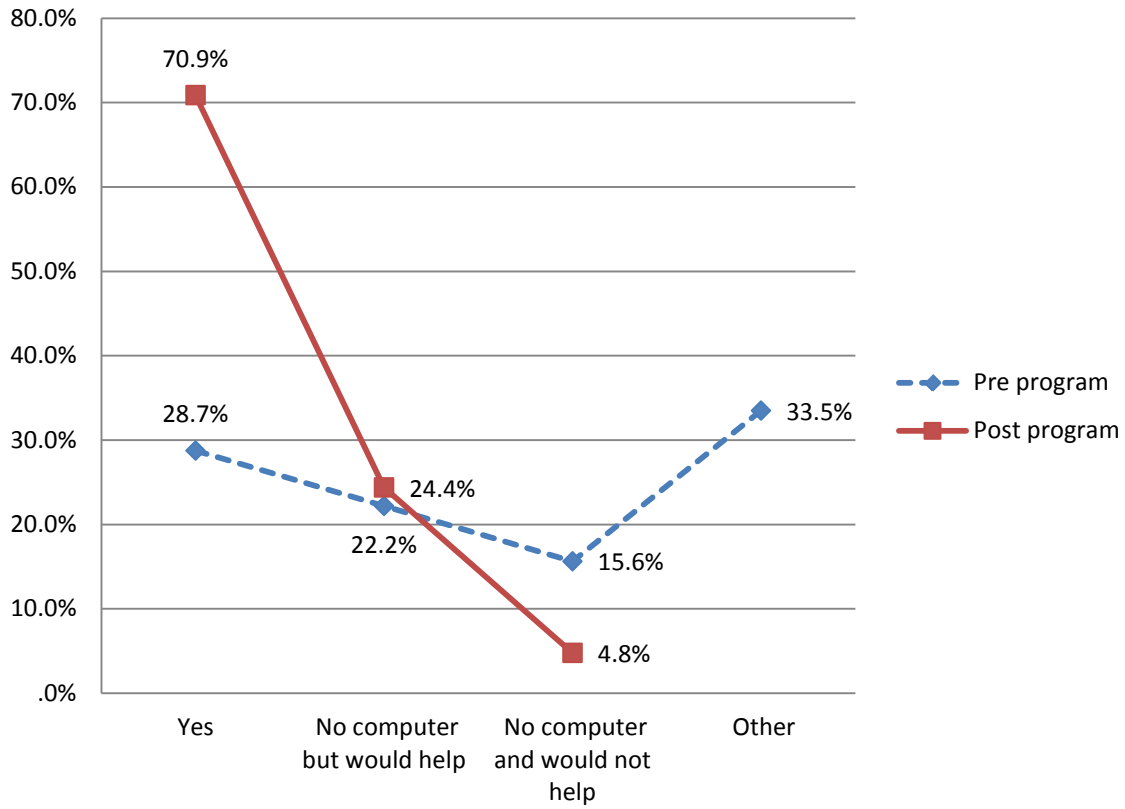

Figure 29: Do You Help Children with Homework Involving Computer?

The questions “Do you think this course will help you help your children with their school project and other academic activities?” was answered by 487 respondents at the beginning of the program. The comparing of Entrance and Exit responses demonstrate that 89.3 percent of participants express confidence that the course would be helpful in the beginning of the program and 85.7 percent expressed the same confidence upon the completion (Figure 30). The percent of the participants without children who thought the course would be helpful increased from 7.8 percent at the beginning of the course to 12.1 percent in the end. The percent of the people who provide a negative answer to this question remains without significant change – roughly three percent of the participants do not think that this course would help them help their children with school projects and home work.

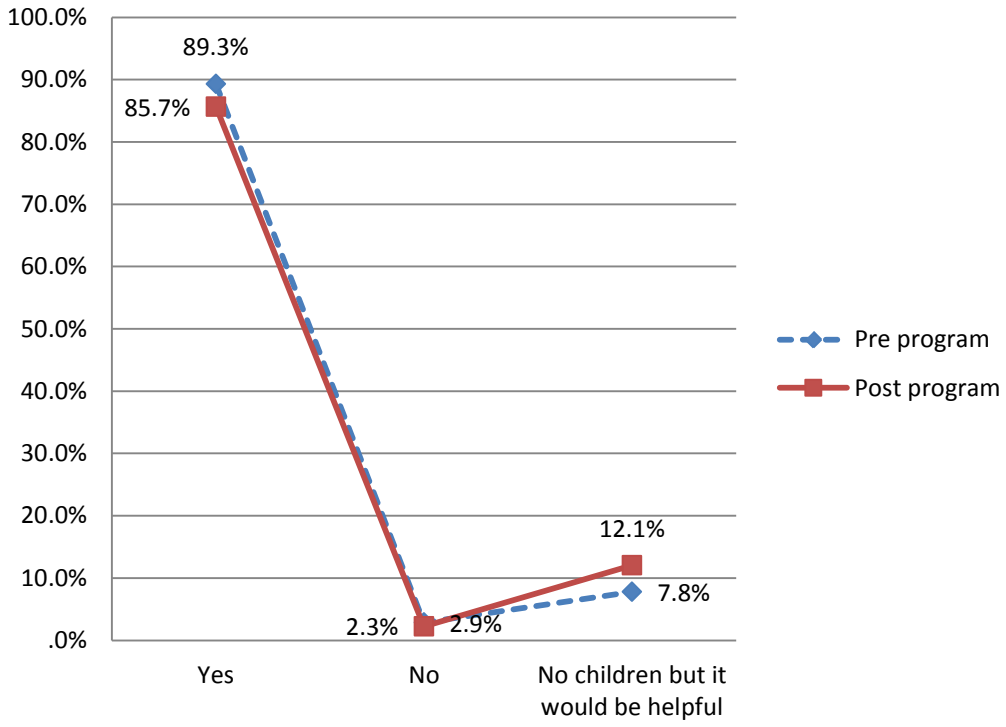

Figure 30: Will the Course Help in Assisting Children with School Projects/Homework?

It is interesting to note that the answers to the question of whether the course would be helpful to the parents in terms of helping their children with their school work and academic activities demonstrated insignificant change. That leaves more questions for further research.

Approximately the same number of people provided an answer to the question of regularity of visits to their children's school - 369 responses at the time of entrance and 398 responses at the exit point. The data analysis demonstrates an increase in number of participants who visit their children schools (Figure 31). Although the percentage of respondents who make school visit was approximately the same prior to the program and upon its completion (15.2 percent vs. 16.3 percent respectfully), the number of people visiting school once a week increased from 15.7 percent to 22.9 percent. The number of people who visited schools only upon teacher's request by phone call decreased from 37.7 percent in the beginning of the course to 20.9 percent by the end of it.

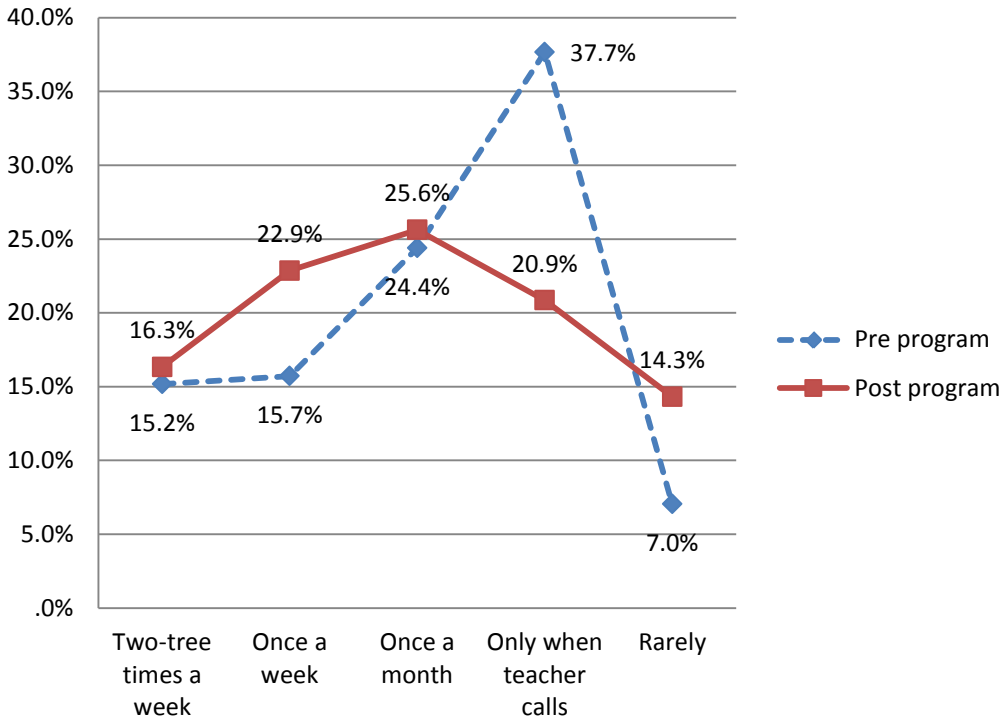

Figure 31: Frequency of Visits to Children's School

The next question addresses the frequency of parents' engagement in academic aspects of their child at home, such as helping, explaining, or teaching vocabulary homework or other school-related activities. Total of 377 responses were received in the beginning of the course and 398 at the end of it. The data analysis is provided in Figure 32. It demonstrates that by the end of the course the everyday involvement increased from 61.1 to 71.1 percent while rare engagement increased from 7.4 to 15.1 percent; twice to three times per week help decreased by 2.1 percent while once a week increased by 4.1 percent; assisting children at home once a month remained almost unchanged 2.4 and three percent.

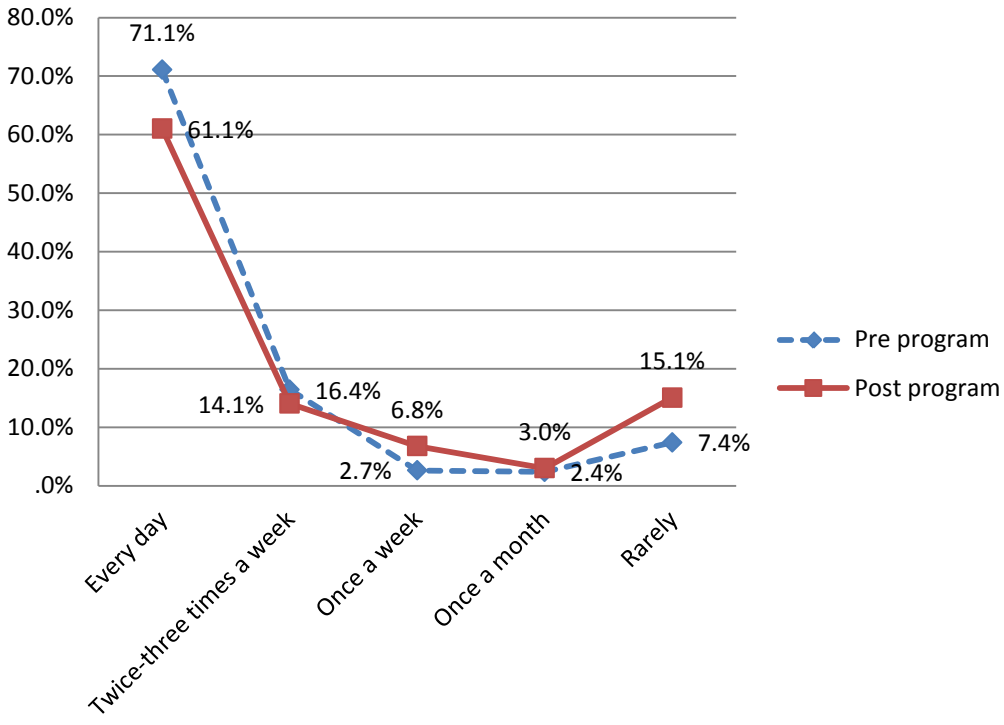

Figure 32: Frequency of Engagement in Children's Academics at Home

Taking into consideration that the number of participants who provided the answers at the beginning of the course as well as at the end is close (377 and 398 respectfully), it is interesting to note that the change is very inconsiderable in the participants' frequency of engagement in their children's academics at home. The program provided by MIGH demonstrates to have little influence on this particular aspect of parental involvement in their children's academics. This indicates that MIGH's goal to increase parental involvement is not fulfilled.

Origin and Education Dependency Investigation

This section is dedicated to the results revealed by the investigation of the relation between the participants' place of origin and education level with various questions

concerning children's education and academics. This analysis was conducted on the Entrance surveys due to the lack of the information on participants' origin and education level in the Exit surveys.

Education Level Desired for the Children

One of the questions in the Entrance survey requested the participants to indicate the highest level of education they wanted their children to achieve. It was interesting to look into if there was any particular connection between the answers to this question and the participants' area of origin or education level. The crosstab examination of the education desired for the children and the participants' area of origins revealed no dependency – the majority of people desire their children to have University education (Figure 33). 460 participants provided answer to this question and information about their place of origin; 396 of them (86.1 percent) indicated University.

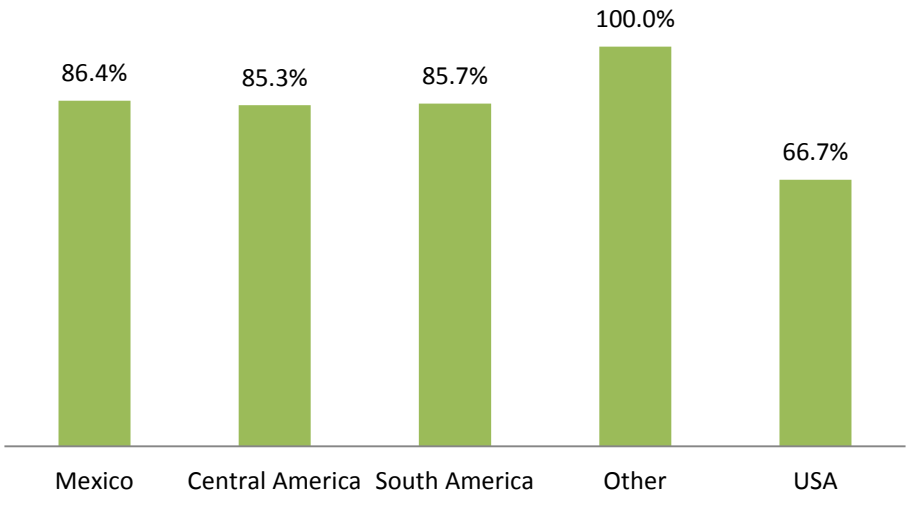

Figure 33: Participants' Area of Origin vs. University Education for Children

A similar pattern is noted when looking at the distribution of answers within each area of origin. Over 85 percent of participants from Mexico, Central and South America indicated University as the ultimate education goal for their children; the same opinion was shared by almost 67 percent of the participants with USA as the place of origin; and all the participants (100 percent) who marked some other place of origin desired university education for their children. It is interesting to point out that the lowest percent of people desiring university degree for their children indicated the U.S. as their place of origin. This is an interesting observation that requires further investigation.

A similar picture can be observed when trying to determine whether there is any sort of dependency between the education level desired for the children and the participants' own education level (Figure 34). Four hundred fifty-five people provided answer to this question and indicated their own education level; 393 of them (86.4 percent) indicated university as the highest education level they would desire their children to achieve. The percentage break-down within the areas of origin demonstrates a similar result – the majority (over 80 percent) of the respondents within each group indicate university as the ultimate educational goal for their children regardless of whether they completed elementary, middle or high school, technical or community college or university.

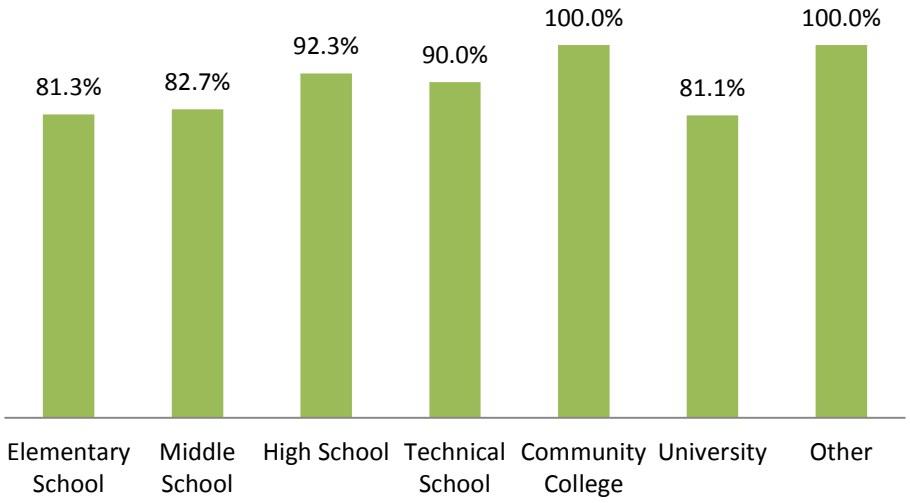

Figure 34: Participants' Education Level vs. University Education for Children

Thus, present investigation of the correlation between participants' area of origin or level of education and the education level desired for the children indicated no dependency. Pearson Chi-Square and Lambda values demonstrated insignificance and no dependency. Majority of the participants want their children to receive university degree regardless of area of origin or level of education.

Parental Involvement into Children's Academics

Similar crosstab analysis were conducted to determine whether there was any dependency between participants' area of origin and education level and their initial involvement in children's academic life. The crosstab analysis was performed on Participants' area of origin vs. Help with computer homework, Regularity of school visitation, and Engagement in children's academics at home. In all cases, the value of Pearson Chi-Square was insignificant while Lambda value indicated no dependencies.

The crosstab operation was also performed on participants' level of education Help with computer homework, Regularity of school visitation, and Engagement in children's academics at home. In all cases the value of Pearson Chi-Square was significant but violated assumptions while Lambda value indicated no dependencies. So, it could not be considered as a valid test.

The study did not find any correlation between either participants Area of Origin or their Level of education and parental involvement into their children's academics.

Drop-Out Investigation

Based on the number of surveys provided by MIGH at the beginning and at the end of the course, the study determined a 30 percent drop-out rate for the computer literacy coursed held by MIGH in various Community Learning Centers in 2011-2012. These numbers were established by means of calculating the difference in number of participants at the beginning of the course (Entrance surveys) and number of participants at the end of the program (Exit surveys).

The formula used was (Entrance-Exit)/Entrance*100%. Based on this formula, the overall Drop-out percentage at the end of the program was calculated to be 29.68 percent that makes up almost 30 percent of all participants enrolled in the beginning of the course. The calculations pointed out the following Community Learning Centers have over a 50 percent drop-out rate: Bob & Jeanne Billa, Bonner Elementary, Edison Middle School, Hambrick, Orange Grove, and Spring Woods. At the same time, there are two centers where none of the participants dropped out, i.e. the number of the students in the beginning of the course remained constant throughout the course (Figure 35). Those

Community Learning Centers are located in the McNamara and in Southmayd Elementary schools.

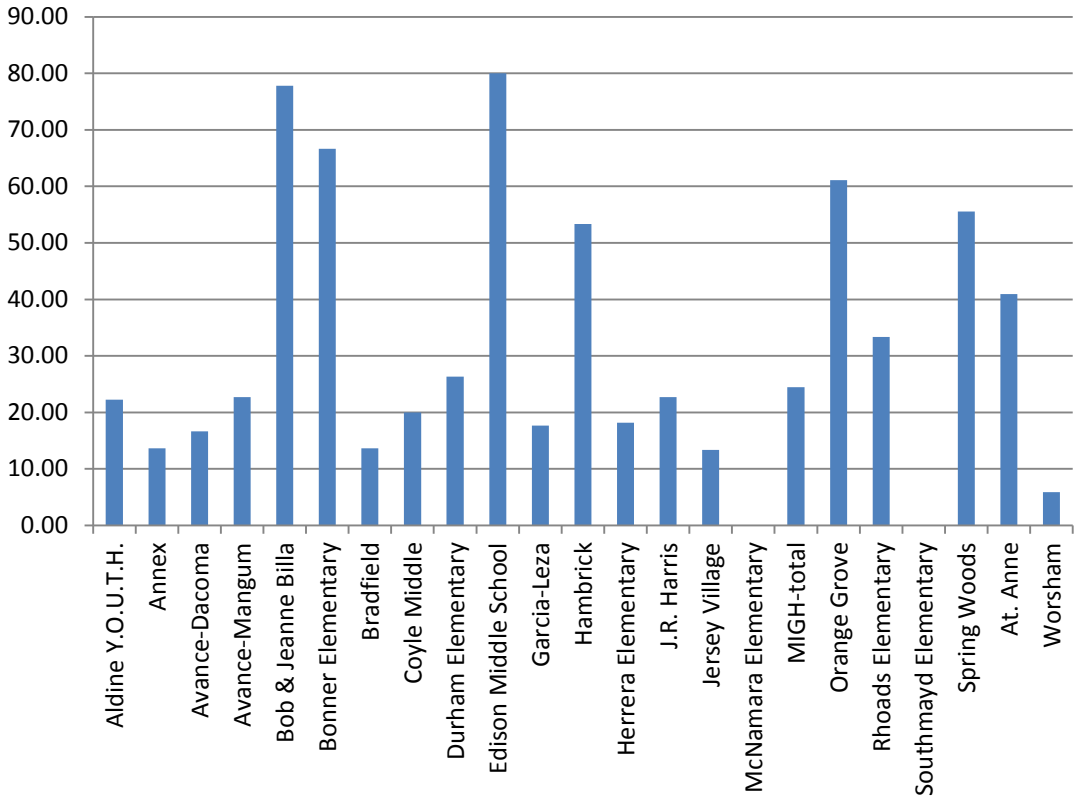

Figure 35: Drop-Out Percent per Community Learning Center

Surprised by such an inconsistency of drop-out rate among the schools, I made an attempt to investigate if there was any possibility for dependencies of the 50 percent drop-out in some schools and zero percent drop-out in others. The crosstab examination was an analysis performed on MIGH's Entrance database in order to conduct a chi-square test allowing for determination of the relationships between the variables. The drop-out rate of schools was separated into three categories - zero percent drop-out; drop-out less than 50 percent; and drop-out more than 50 percent. The following factors were considered based on Community Learning Center locations controlled by the drop-out:

- Participants' age;
- Participants' gender;
- Participants' marital status;
- Presence of children in the family;
- Number of people in participants' households;
- Participants' area of origin;
- Participants' level of education;
- Participant's employment status;
- Availability of computers in participants' homes;
- Availability of internet in participants' homes.

The results of the Chi-square test did not testify to any correlations or dependencies between the participants' attributes/characteristics and the drop-out rates. In other words, it was determined that neither one of the listed above features has been a key factor for the drop-out number of people in any given Community Learning Center. The assumptions that a higher drop-out rate could be explained by participants' age, gender, marital status, children, people in the household, area of origin, employment status, education or availability of the computer and internet at home was not supported.

This is an important discovery for the future studies as well as for MIGH for several reasons. First of all, based on this finding, MIGH might choose to continue targeting other Hispanic communities with similar demographic attributes. Secondly, the future studies can eliminate the already examined characteristics and focus on other factors that might qualify as possible decisive causes.

Chapter Four – Discussion

Based on the results of the database analysis of the surveys provided by MIGH consisting of 566 surveys filled out by the participants prior to the beginning of the computer literacy course and of 398 surveys filled out by the participants upon the completion of the course, the following conclusions can be made.

Demographics

There are distinctive aspects to the sample. The Hispanic adults participating in MIGH's computer literacy program are overwhelmingly mothers. This fact is consistent with the findings of Rivera (2007, 2008, 2009). Moreover, the present project shows that the majority of these females already have computers and internet access at home. According to PewResearchCenter, the whites are more likely to have internet connection at home than Hispanics (75 vs. 55 percent respectfully); there is a difference between these two groups even when comparing internet users exclusively (96 vs. 85 percent) (Livingston, 2011). Thus, the participants of MIGH's computer literacy courses represent a self-selected group because they want to get those skills.

Based on the finding of Taningco and Pachon (2008) that mothers' education level is a positive influential factor in children's achievements at school, the selectiveness of the MIGH's sample can be considered from a different point of view. Perhaps, it is more beneficial for the females to have computer skills than for the males in relation to effect on children as well as their status of a "role-model" in the family. This observation is very interesting and calls for further investigations of the reasons why MIGH's program is more appealing to female population. This also leads to the question of what

kind of effect female's acquisition of computer skills has on their children in comparison to the men's; and, how it is different from male's in terms of influence on children and preservation of the "role-model" status within the family.

Drop-out

It was determined that the computer literacy courses offered to the adult Hispanics in Houston area had a thirty percent drop-out in 2011-2012 academic year. This phenomenon might be explained by such factors as the lack of computers to complete homework assignments, gender, children, job commitments, or area of origins of the participants. The incomplete data does not allow for such conclusions and, thereby, opens up an avenue for future research.

Self-Efficacy

The participants demonstrated confidence that the computer literacy course offered by MIGH will improve their employment opportunities in the future. Ninety-nine percent of participants indicate such certainty at the beginning of the class as well as upon its completion.

The research demonstrates an overall improvement of participants' self-confidence level when working with computers. By the end of the program, there is a 30 percent increase in numbers of people who did not feel nervous with computers and did not find computers hard to use. It is possible to conclude that MIGH's computer literacy program has improved the overall confidence level of the participants when working with computers; it has also re-assured the participants in the program's usefulness for their future employment opportunities.

Computer Literacy

The self-efficacy questions demonstrated a positive progress in participants' ability to use PC computers with Windows platform. When comparing the number of people evaluating their computer skills level at the beginning of the program and in the end, there is a considerable increase in numbers of participants capable of perform the "core" computer operation. The overall improvement of participants' basic computer skills by the end of the program demonstrates a positive influence of MIGH's program on the participating Hispanic adults in terms of their ability to perform basic software operations without help.

Parental Involvement in Children's Academics

The results of the analysis of the questions related to parental involvement with their children's academics demonstrated a positive dynamic in participants' assurance of the tasks they could perform in schools. The percent of people who were willing to read books to the kids, help with computer projects in school, provide help in the library, help the teacher with material preparation or help on the field trips has increased by the end of the program. This finding is also consistent with Rivera's (Rivera, 2008). The increase in number of participants willing to be more active in school activities indicates that MIGH's program provided information about these particular functions in a comprehendible and persuasive way that had a positive influence on the participants' perception of how they could contribute in schools. I believe that this particular segment of MIGH's program can be considered to be successful.

The program also had a positive impact on the parents' involvement with children's homework that requires the use of computers. The percent of people willing to

help their children with computer at home increased from about 30 to 70 percent. A similar percentile increase was demonstrated by Rivera (2009).

However, the research did not find the program to have a considerable effect on the frequency of parents' visitation to children's school. The only obvious positive exception can be noted for the parents who visit the school only when they are called by the teacher: their number decreased from almost 40 to 20 percent. However, it is difficult to make a clear determination of this improvement due to the thirty percent drop-out rate and inability for the research to determine the connection between those participants who remained in the program and those who quit it.

Most of the people indicate the program to be overall helpful in aiding the children with their homework involving computers at home which can be explained by the overall increase of the participants' computer literacy skills. However, the frequency of parental involvement in children's academic life at home did not demonstrate significant change. As demonstrated by Grace, Jethro, and Aina (2012), parental involvement in children's education in school and at home facilitates children's success in school. This research project found only very partial satisfaction of the conditions contributing to children's good performance in school determined by previous research. However, to truly access the program's effect on children, it is necessary to analyze their academic performance before their parents begin MIGH's program and compare it with children's performance after their parents complete the program.

Thus, this research is unable to produce definitive conclusions on the overall effectiveness of MIGH's program in terms of the parental involvement in children's academics. The increase in numbers of people demonstrating positive change in school

participation and assistance with computer-involved homework can be explained by the selectiveness of the sample, i.e. the majority of the participants are females who attend to their children. Thus, it is only possible to say that computer literacy program provided by MIGH to Hispanic adults in Houston area is fulfilled only partially. The other aspects of the questionnaires related to parental involvement require further investigation.

Participants' Origin and Education Level Investigation

The participants of MIGH's program come from various areas and have a different educational background; however, the majority of people indicate a desire for their children to receive a University degree. The project made an attempt to determine if this desire was based on background factors. The analysis of participants' education level and area of origin in relation to the desired level of education for the children revealed no dependencies – regardless of any factors, the university degree was the most desirable. However, the analysis demonstrates that the lowest percent of people who desired their children to obtain a university degree were those participants who indicated the U.S. as their area of origin. This phenomenon can become an object of future ethnographic study.

No dependency was discovered when trying to determine relationship of participants' area of origin or educational background to parents' help with children's homework involving computers, regularity of school visitation or engagement in children's academics at home.

BTOP Results

The questions related to participants' acquisition of computers and internet for home use demonstrated an 11 percent increase. However, it does not necessarily indicate that MIGH's program had a positive influence on participants' decision-making in either one of these aspects. Due to the incompleteness of the database provided by the MIGH, it was impossible to identify those participants who have dropped out of the program. Therefore, it is difficult to determine the real reasons for the 30 percent drop-out from the program. One of the possible reasons for the people to drop out of the course could be an initial lack of computers and internet access at home to begin with. Therefore, considering that the numbers of participants dropped from 566 at the beginning of the program to 398 by the end of it, the 11 percent surplus of people with computers and internet at home might indeed, consist of those people who did have all these technologies in the beginning of the course while the 30 percent of the drop-out could consist of those participants who did not possess either one or both technologies.

General Conclusion

This study found it difficult to achieve conclusive results. Considering a 30 percent drop-out rate and incomplete database provided by MIGH, it is difficult to calculate the true impact of the program on the Hispanic parents in relation to the academics of their children. However, the study has determined an overall improvement of computer skills and attitude towards computers among Hispanic adults as well as on parents' ability to participate in children's schools and assist with computer homework at home. These aspects of the surveys were found to be consistent with the findings of Hector Rivera (2007, 2008, and 2009).

The study did not determine any significant change in parental involvement with children's academics at home or school visitation. Nor was it able to determine a true impact of the computer literacy courses on acquisition of computers and/or internet access upon the completion of the program (BTOP results).

Chapter Five: Post-Scriptum

Self-Reflection

In January of 2012, the Mexican Institute of Greater Houston (MIGH) approached the Department of Anthropology at the University of Houston, Texas, USA, with a proposal of conducting a collaborative study. MIGH sought for a person to analyze the surveys filled out by Hispanic adult students taking computer literacy courses provided by the organization. The results of the analysis were to be submitted in a report. In return, the student conducting the analysis had an opportunity to use the organization and the data collected as study subjects for a Master's thesis with the focus on the student's interests. It sounded like a great opportunity for me for several reasons.

First, it was an opportunity to do something beneficial for people. I began working towards the Master's degree as an adult with three Bachelor degrees completed more than a decade before, with job experience as a web designer and as an interpreter of the Russian language in various cultural exchange programs, with exposure to life in different parts of the United States, with a child entering elementary school, and an extremely scientifically-oriented husband. I felt that I needed to do something "good" for the world that existed beyond the four walls of my family life.

The initial idea for this research project, from an anthropological point of view, is to test the database for some possibilities of cultural dependencies. I was very much interested to see if any cultural aspects of a rather diverse cultural group of the participants had an influence on participants' involvement with children's education. Since human behavior and attitudes are affected by the cultural and social exposure

during various stages in life, I propose that people with different cultural backgrounds, education levels, exposures to living in the U.S. might have different attitudes towards education in general and towards personal involvement in children's education. The only way to determine any possible cultural tendencies within the studied group was through analyzing their survey answers at the time of entrance and exit. So, our idea was to link the actual people at the time of entrance and exit. However, as I explained earlier, the database lacked the identification numbers that would allow determining the actual people who dropped out of the program. As a consequence, I can only speculate about who did not complete the programs and about possible reasons for doing so. I believe the results of this research are skewed – and this is my unfortunate conclusion about this project. But things looked different at the beginning...

The first meeting with MIGH members made me very excited about the project. I heard a very passionate speech about the importance of computer literacy for Hispanics living in Houston; that computer-illiterate Hispanic parents cannot offer appropriate assistance with homework to their children and, therefore, lose the respect in children's eyes. It is necessary to provide Hispanic adults with basic computer skills because it changes their attitude towards education and affects how their children perceive education. I was told that computer education is very important for many of these Hispanic adults because some of them had only a middle school education while others were illiterate. The last part is puzzling me still – how can illiterate people fill out surveys and read information on the computer screen? Besides, if a prerequisite for taking computer classes was literacy in Spanish, then how could illiterate people end up participating in the program? Although I had difficulty making a clear connection

between all these bits and pieces of information, it was flattering for me to be affiliated with a program that provided free computer education to those who could not afford it otherwise. Given my background, this issue is close to my core beliefs and skill set.

Regardless of all my confusion, it was very important for me that MIGH had children as the final goal of their reach. To change children's lives through educating the parents – what a great idea it is! Just like the members of MIGH, I believe that one way to make children's lives better is by means of making a positive change in the lives of their parents. Little steps can go a long way. So, I wanted to make a little step and make my contribution. The analysis of the surveys was to be included in the reports to the government; and, that would mean more money could be granted in the future. MIGH has many ideas for application of the funds – to develop programs certifying in Web design, programming and financing; to organize a collaborative program with the city's banks in order to certify Hispanic adults to work in bank systems; to expand the program to other communities and offer it in English. All these mean free computer education for more people, better employment opportunities, and more kids that would look up to their parents. All these goals and ideas sounded extremely important to me.

Being a Russian trying to make it in the USA and having a young child, I often wonder what my daughter will think about me when she grows up. Am I going to be a loser in her eyes or a person who did everything so that her life would be better? How will my doings influence her life and aspirations? I, as a child of my parents, think about this when I look at my parents back in Russia in attempt to judge them for sending me alone to study in the U.S. when I was seventeen. And, I came to the conclusion that they did all they could, or maybe even more, because they let me go half-around the world

right after high school so that I could get my education in this country and so that my life would be better than theirs. A believer in education, I have always been and always will be in support of any programs promoting any type of education.

Besides addressing an educational aspect, this project was also planned to be the first step in the development of an affiliation between the Anthropology department and MIGH. I believe that relationships between educational institutions and an organization working for the benefit of the community are extremely important for both. Besides a possibility of making such relations mutually beneficial, I think it is the associations like this that bring a sense of a community to all involved – the university, the department, the student, the organization, and especially the people in the communities the project is targeting. They bring different people closer in aspiration to achieve the same goal.

Inspired by the positive spirit of the people involved in the program, I was eager to start. After successfully overcoming all the obstacles, overwhelming and often impossible to understand amount of paperwork necessary for a foreign student to be able to work off campus and to work with human subjects, I was ready to receive the promised database. I was given a flash-card with Excel spread sheets of data. I conducted the initial calculations and provided the results. Unfortunately, the initial set of data was inaccurate, and, therefore, was useless. And so was my time put into its analysis.

I began making regular visits to MIGH to stay 'on top' of what was happening there. A lot was happening – the organization was undergoing some major changes; people were being fired; the system of administering the classes was being computerized; and the person who talked to me in the beginning of the project was gone. So, I found myself in a situation where I had no idea who to turn to for help. Finally, I was assigned

to a person who was in charge of a different project in the organization. This created a few problems. First, my project was not a priority – that made me feel extremely uncomfortable and as if I was in the way of better and bigger things. Nevertheless, the help was eventually provided.

Secondly, obtaining the necessary database was very problematic because the surveys submitted by the participants in the beginning of the course were filled out by hand. I was in shock the first time I had a glimpse of the work that was ahead of me – there were stacks of boxes filled with paper-surveys in Spanish that were still to be entered into an Excel database. I tried helping organize and input the surveys; however, the majority of work was completed by the temporary employees of MIGH. As a result, the data collected of the entrance surveys was not in uniform format, the questions did not relate to the exit surveys, and many answer fields were empty. I also had to face another "minor" difficulty – the delay in timely answers. For example, the preliminary results of this study (the graphs and their interpretations) have been sent to MIGH for review and have been expecting feed-back for over a month now.

As a part of the study, I planned to conduct an interview the President of MIGH, Mr. Carlos López, in order to discuss the findings of the study. As the head of the program, Mr. López could have provided an insider's interpretation of the results and explain how they fit, or do not fit, into the general idea and concepts of MIGH. His opinion would be very valuable in terms of determining the success of the program for the 2011-2012 classes. Unfortunately, it was not possible to set up an interview time with the President of MIGH due to the lack of response to my interview request.

Although the majority of obstacles in this research process were institution-dependent, I believe that some of them were created by my personal characteristics such as indecisiveness, inability to communicate sufficiently my needs in order to complete the project, and lack of persistence. One lesson I learned from this experience is that I need to speak up in order to be heard.

Implications of the Project

Despite all the difficulties, the analysis of the database provided by MIGH has been completed. The results will be submitted to the Mexican Institute of Greater Houston for further BTOP report on the computer literacy program provided by the organization in 2011-2012.

The results of the analysis indicate some positive aspects of the program such as an overall improvement of participants' computer skills and computer self-efficacy, and participants' certainty that the program is helpful for future employment and for assistance with children's homework. However, due to the incomplete database provided by MIGH, the project found it difficult to determine any other dependencies that could be of use to MIGH in terms of finding other ways to increase parental involvement in children's academics or to make any changes in the program. Nor was it possible to make any other determinations that could be helpful for MIGH for the development of the future marketing strategies with a focus on other communities.

Despite of inconclusive results of the study, I was able to partially fulfill the "applied" purpose of Applied Anthropology by contributing to correction of the surveys MIGH give to the program participants. As mentioned above, the organization was undergoing many changes in the spring of 2012. One of the goals at the time was to

organize and computerize the administrative side by introducing a common computer framework for the program. It also meant the necessity to unify the Entrance and Exit surveys and make them more efficient for MIGH in terms of collecting information about the participants.

After careful analysis and comparison of Entrance and Exit surveys, a number of issues were pointed out for consideration of MIGH administration. For example, a number of questions were repetitive and, therefore, had to be combined. It was also suggested to consider editing questions related to participants' ethnicity if the program was to be expanded beyond just Spanish-speaking population. The questions related to self-efficacy are based on three answer options; therefore, it was suggested to use a 5-point rating scale in order to collect more accurate information about participants' progress upon completion of the course. For example, it was suggested to use such answers as "None/Poor/Fair/Good/Excellent" when asking about computer skills instead of "Cannot do it/Can do it alone/Can only do it with help". A similar suggestion was made for the questions related to quality of the provided class and evaluation of instructors and tutors. I hope that these suggestions have been taken into consideration by the administration of MIGH and served for the benefit of the program.

Recommendations for MIGH

Based on the information collected about the organization, literature review, analysis of the available data and discovery of self-selectiveness of the participating Hispanic adults, this research project can make the following suggestions to MIGH.

First, since the majority of the participants are women, MIGH might need to review their marketing strategy to make the program more appealing to men. A greater

number of male participants in the program will demonstrate the diversity and serve as a proof that the program is not biased towards men. I also believe it is important to bring more men into the program for financial reasons: in "traditional family" praised by MIGH, a man is the head of the household and the financial decision-maker. Thus, in order to facilitate an increase in computer purchase and internet use, it is necessary to draw in the particular layer of the target population responsible for authorization of such expenses. Perhaps, one way to reach more men would be through local churches, television and radio stations. And, Houston has many of those with Spanish spoken as the major language.

Second, since the majority of people enrolled in the program are computer owners with internet access, it is necessary for MIGH to reach out to more people who do not have computers. This goes with compliance to the goals of BTOP program to provide broadband. Some ways to accomplish this might be by giving a presentation of the computer program in the local ESL classes working with Spanish-speaking immigrants or by advertising in local community stores. In spite of the fact that MIGH's program demonstrated to have a positive influence on level of computer skills of the program's participants with previously owned computers and internet, it is still a number one priority for the organization to reach out to as many people lacking computers as possible and provide them with the computer skills, computers, and internet access.

Third, it is necessary for MIGH to appoint a particular staff member to be in charge of the surveys. This person needs to have some experience in working with statistical analysis and marketing strategies; he/she needs to be able to analyze the existing surveys and introduce proper modification to the surveys in order to satisfy the

organization's needs for particular information. The person in charge of surveys should also be a leader and mediator for the projects that will be carried out by the UH students in the future. This will facilitate faster turn-around of information and contribute to more efficiency in getting the results.

Fourth, MIGH needs to dedicate special attention to the drop-out rate because a higher number of participants in computer literacy courses constitutes fewer computer illiterate Hispanics in Houston area. That is a statistical proof of MIGH's contribution to narrowing the digital divide in the area. In 2007, Hector Rivera reported that people unable to continue studying indicated a new job, need of remedial courses and lack of child care as three reasons for leaving the program (Rivera, 2007). It is necessary for MIGH to look deeper into the identified reasons and take appropriate measures for decreasing the drop-out rate. Although MIGH offers various times for its computer classes, it might be possible that those times are not very convenient for people. My suggestion would be to question people about the reason for dropping the class when that occurs and to keep track of more convenient times. I am not sure the exact meaning Mr. Rivera assigned to the "remedial courses" but I assume that either the course material was too difficult to comprehend for the participants or participants were in need of some other skills and took the computer class by mistake. The first issue can be fixed by adjusting the explanation of the course materials to the level of participants' comprehension; the second issue can be eliminated by clearer explanation of the program to the prospective students prior to registering for the class.

Fifth, since the children are the core focus of MIGH, I feel it is necessary to dedicate a paragraph to the children in particular. The lack of child care during the classes

has been indicated as one of the reasons for drop out (River, 2007). Thus, this clearly dictates a necessity to have some child support system for those folks who want to take the course but are unable to do so because they have no one to leave children with. Moreover, MIGH promotes positive influence on children's attitude towards education and academic success; however, the only obviously available way to express that is for the kids to attend parents' graduation ceremony. Perhaps, it could be beneficial for the children to actually participate in computer literacy courses along with their parents. Collaborative learning has been proven to have a positive influence on child-parent relationship, children's academic success and family dynamic (Lin and Liu, 2012; Grace, Jethro, and Aina, 2012).

Sixth, the "traditional families" targeted by MIGH usually include grandparents who also might be interested in obtaining computer skills, computers and internet access. In fact, the demographic analysis conducted by this study indicated that 2.3 percent of participants belonged to the retirement group of 62 years old and older. This clearly demonstrates an interest of the older adults in the program. Perhaps, it would be beneficial for MIGH to find ways to attract more grandparents by gearing the program more towards that particular age group.

Seventh, MIGH needs to put an effort into collecting long-term follow-up surveys. The longitudinal study is the only way to determine the true effect of the program. Moreover, the follow-up surveys need to include questions related to children's academic progress as well as parents' achievements.

Eighth, it is important to establish relationships with the schools where the Learning Centers are located. During my visits to MIGH and meetings, I did not get a

clear understanding of how much the schools and school administration is involved in the computer literacy program provided by MIGH. In fact, I got a feeling that school administration was disconnected from the program. If this, indeed, is true, then I believe it is essential for MIGH to establish such relationships. I agree that it is important to familiarize the participants with the school system and various social programs available to them. However, I also believe it is important to meet those who "run the show" and have an opportunity to ask questions and communicate with the people who are directly involved in their children's lives, i.e. teachers and school administration. Moreover, improving the relationship between school administrations, MIGH, and the program's participants would reinforce communication between schools and parents and contribute to better relations between school system and Hispanic community.

Recommendations for Future Research

Based on the findings of this research as well as the personal experience throughout this project, I also have a number of suggestions for future researchers.

The first and most important thing is to be more assertive – call, write, make an appointment! Show up without invitation if none of the previous actions got you anywhere closer to solving your issues! That is the only way to make people understand your importance and provide appropriate accommodations.

Secondly, the complete database with no questions and answers missing is essential for conducting a legitimate statistical analysis. The new format of the database should be available as of Fall of 2012. A newly developed system will enable future researchers to determine the most essential factor for adequate analysis – to identify participants who do not complete the study.

Third, considering a 30 percent drop-out rate of MIGH's program, I believe it is important to investigate the reasons for it. Since Mr. Rivera has already identified some possible reasons why people do not complete the courses, I believe it would be very interesting to conduct an investigation of whether these three reasons still remain valid. The future investigators can conduct ethnographic research on specific characteristic leading to the drop-out from the program. Allocating specific features of the drop-out group would allow MIGH to make appropriate adjustments to the curriculum, accommodations, places, or times of courses (depending on the need). I believe the investigation of the drop-out reasons would be a very valuable study for the further development of the program.

Fourth, future research needs to focus on the reasons why the MIGH's program is so self-selected, i.e. it consists predominantly of females with children, computers and internet access at home. I believe that allocating the reasons for this would allow defining new ways to attract more people into the program. The new database system will also enable future research to focus on specific groups participating in the program that can lead to expansion of the program to the areas and communities with those specific cultural attributes.

Fifth, research needs to be conducted to determine the true effect of MIGH's computer literacy program. MIGH is planning to follow up with the participants of the program in half-a-year sequence for a year upon completion of the program, i.e. 6-12-18 months. It is the goal of MIGH to conduct a survey focused on how the computer literacy courses help the Hispanic adults in the long run in finding new jobs, holding the current jobs, and becoming more active in their children's academics. Future research projects

can focus on the development of the follow-up surveys and conducting longitudinal studies of the effect of the computer literacy offered by MIGH in Houston and, perhaps, other areas.

Sixth, another way to expand the research of MIGH's contribution to Hispanic communities in Houston is by conducting a comparative study of MIGH with other organizations that are trying to accomplish the same mission, i.e. to narrow the digital divide and bring technology to the Hispanic community. Such research would allow for determining MIGH's advantages and disadvantages based on comparing the programs, curriculums, personnel and goals.

Seventh, and by far the most interesting ethnographic investigation can be conducted on the concept of "digital divide" as perceived by the Hispanics. The literature review conducted for this study revealed many sources dedicated to the problem of "digital divide" – research, mass media, Pew statistics – providing etic (outsider's) prospective of this issue. However, there is not much information providing the emic prospective. I feel there is a great lack of insiders', Hispanics', opinion of the problem. Do they see the "digital divide"? Do they see themselves as being in the middle of this technological gap? Hispanics are placed in the middle of this issue and labeled as "suffering from technological disadvantage" but the question is – Do they feel that? Just like everybody else, they use cell phones packed with software providing internet access. Moreover, Hispanics use computer technology even when they do not have the skills to operate certain software. For example, the data analysis provided by this study reveals that the participating Hispanic adults use help of others if need to use computers and software. Tables 10 – 24 compiled to demonstrate the participants' advancement in

computer skills show that 20 to 30 percent Hispanic adult participants use these computer programs with help of others. So the question is – do they, the Hispanic adults in the U.S. – feel that they are "digitally divided"?

There are various directions the future research may choose to take. I believe that regardless of the route the next researcher of MIGH's program picks, he or she will continue contributing to further investigation of the problem of "digital divide" and to Hispanic community.

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