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**COMMUNITY WELL-BEING AND COGNITIVE HEALTH IN A LEARNING
INSTITUTE FOR OLDER ADULTS: A CASE STUDY**

A Dissertation in

Lifelong Learning and Adult Education

by

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ABSTRACT

The purpose of this study was to explore participants' experiences and perceptions of the development of community well-being as a result of their participation in a learning institute for older adults, and in a particular holistic course aimed at the overall promotion of cognitive health. This was a qualitative case study grounded both in the community well-being, and in the cognitive reserve literature regarding older adults. The case under study was a learning institute that functioned alongside a retirement community. There were a total of 11 participants in the study: including five that provided understanding of the overall context, and six who participated in a two-part eight week course promoting cognitive health for seniors. Data were collected through semi-structured interviews, in-class observation, and analysis of relevant documents.

There are four sets of findings in this study organized around: (1) the learning institute context and goals; (2) older learners' lives and sense of well-being; (3) their participation in a course in cognitive health promotion; and (4) the meaning of learning for older adults. Findings show that senior learners value the learning experience and the structure of the institute. Course participants presented high levels of community well-being (subjective well-being and social capital), because of their faith, activities, relationships, and the acceptance of their life's limitations. The educational process provides a broader view of life and helps seniors to reflect on their values. Learning is considered to be a motivator for action, and the learning institute has become a bridge to the broader community. The course for promoting cognitive health is a source of hope, awareness, and meaning making.

This study has implications for the theory and practice of adult education with older learners in a variety of contexts. Moreover, it contributes to the promotion of cognitive health interventions for seniors as primary prevention strategies. The discussion of the findings poses a model for learning institutes that may promote community well-being for senior learners.

TABLE OF CONTENTS

List of Figures	vii
List of Tables	viii
Acknowledgements.....	ix
CHAPTER ONE.	1
Background to the Problem.....	4
Adult Learning and Seniors.....	6
Educational Initiatives for Older Adults in the World.....	8
Community Well-being.....	10
Community Well-being and Promoting Cognitive Health.....	14
Education, Community Well-being, and Older Adults.....	16
Problem Statement	18
Purpose and Research Questions	18
Theoretical Framework	19
Significance	21
Overview of Methodology.....	23
Assumptions.....	26
Limitations and Strengths of the Study.....	27
Definition of Terms.....	29
CHAPTER TWO.	32
Older Adults in a Worldwide Context.....	32
Older Adults.....	33
Adult Education and Seniors	34
Theoretical Framework of the Study: Community Well-being >>.....	36
Subjective Well-being	38
Social Capital	40
Theoretical Framework of the Holistic Course: Attempting to Prevent Cognitive Decline	44
Cognitive Decline and Alzheimer’s Disease	44
Neuroplasticity, Brain Reserve, and Cognitive Health	50
Education in Later Life	58
Learning Institutes for Older Adults	59
Benefits of Learning Institutes for Seniors	62
CHAPTER THREE.	68
Qualitative Research Methodology	69
Case Study Research	72
Action Research	75
Planning Phase	77
Action Phase	79
Observation and Reflection Phase	83
Background of the Researcher	84

Participant Selection	85
Data Collection and Methods	86
Interviews	87
Observations and Field Notes, and Documents	88
Data Analysis	89
Verification	91
Summary	93
 CHAPTER FOUR	 94
Part I: Participants	95
Contextual Participants	96
Participants of the Brain Fitness and Brain Power Course	99
Summary of Participant Demographics	102
Part II: The Findings of the Study	102
The Learning Institute: Context and Aims in Providing Learning	104
A Need and a Birth	104
Intersection of the Retirement Community and the Learning Institute	105
Acceptance of the Terms and the Structure of the Learning Institute	107
The Commitment of Paid Administrative Staff and Volunteer Teachers	110
Challenges of the Learning Institute	112
Learners' Lives and Sense of Well-Being	115
Positive Life Satisfaction Due to Faith, an Active Life, and Close Relationships	116
Acceptance and Peace with Life's Limitations	118
A High Sense of Trust and Fairness	120
The Importance of Activities and Social Networks	121
The Support and Challenge of Religiosity	124
A Primary Preventive Intervention: A Course on Neuroplasticity and other Networks	126
A Holistic Course Structure: Active Learning, Interaction and Reflection	127
Knowledge about the Brain as a Source of Hope and Awareness	134
The Significance of Homework and Involvement for Senior Learners	138
Learning as a Shared Experience	139
Meaning of Learning for Older Adults	141
An Enjoyable Activity	142
Provision of a Broader View of Life	145
Motivation for Action and Connection	148
A bridge to the World. Finding Social Validation through Learning	150
 CHAPTER FIVE	 153
Findings in Light of the Research Questions and Theoretical Framework	154
The Learning Institute in Context	155
Learning Institutes and Community Well-being for Seniors	160
Promoting Mental Health and Well-being through a Holistic Course	167
The Importance of Ongoing Learning for Older Adults	172
A Cross-Cultural Perspective: The USA and México	176
Implications for Theory and Practice	180

Aging in the Context of Globalization	180
Implications for Adult Education: Towards a Model for Education for Seniors.....	181
Implications for Retirement Communities	187
Implications for Cognitive Health	189
Implications for Learning Institutes and for the World	190
Suggestions for Learning Institutes for Older Adults	191
Limitations and Implications for Further Research	195
Final Reflections and Closing Statements	197
REFERENCES	200
APPENDIX A. Course Description/Invitation for participants.....	222
APPENDIX B. Example of a Two-Hour Session, Holistic Course for Promoting Cognitive Health	223
APPENDIX C. Critical Questionnaire 1.....	231
APPENDIX D. Critical Questionnaire / Final Reflection.....	232
APPENDIX E. Interview Questions / Contextual Participants.....	234
APPENDIX F. Interview Questions / Senior Learners	237

LIST OF FIGURES

<i>Figure 1</i> Relationship between the learning institute and community well-being	183
<i>Figure 2</i> . Cognitive health and subjective well-being in senior learners.....	185

LIST OF TABLES

Table 1. Contextual Participants' Demographic Variables.....	96
Table 2. Learner Participants' Demographic Variables.....	99
Table 3. Qualitative Data Display	103

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CHAPTER ONE

INTRODUCTION

I am writing this dissertation in honor of my beloved father. He was an older adult in México (my country and his) but a peculiar one. He was 82 years old when he called me and said, “Patty, I have some ideas that I want to present to the mayor of the city, and I need you to help me put them in a presentation; probably I would get hired,” he said. He had ideas about social projects for the community that he could develop with some help. I went with him as his technology assistant, and he presented his ideas. One of them was a project for older adults that could impact positively not only the well-being of individuals, but also the community. My dad was thinking about a vocational school, a sort of learning institute, where people could develop learning abilities and earn some money. When the mayor listened, he said, “Yeah I was thinking about something similar, an institute for older adults.” Then he said, “But Don Enrique, you have good ideas but I want your daughter,” and he asked me, “Can you prepare a proposal?” I looked at my father, the three of us laughed, and I said yes. That was 2010.

Older adults? Really? It was a population that I did not know (I am a Marriage and Family Therapist). But my dad was so enthusiastic about the idea (even when he did not get the job offer that he was looking for), and I knew it could be a good opportunity for me. So I started my research process. I found that there was only one learning institute for seniors in México for older adults, so I went to see it. Then, I looked for other similar institutions in the world. I analyzed their characteristics and made a comparison chart. I evaluated what pedagogical model could be used and I researched the benefits that education can have for

older adults. Furthermore, I analyzed the population of senior citizens in Tlalnepantla, the municipality where the learning institute would be. I dreamed a little bit, and I started the institute: Unidad de Desarrollo y Educación para la Tercera Edad (Development Unit and Education for Seniors, UNIDE).

As creator and principal of UNIDE, a learning institute exclusively for adults over 60 years old, I shared exciting experiences with the senior learners. Stories full of changes and surprises were present every day. Some stories were related to improvements in the participants' cognitive skills, others were linked to better relationships within the seniors' families, and still others were connected with new jobs or new hobbies outside the learning institute. Something was happening in this community. These everyday experiences made me think: What does this institute have that can evoke changes in older adults? Is it only this institute? Are other learning institutes for seniors in the world having the same impact? How do these institutes impact the social networks within the community?

Those thoughts encouraged me to go outside of my safe, beautiful, and comfortable box. I could not have the answers in my country because there were no other similar programs at that time. So I asked myself, where? Europe? No, it is so far. South America? No, they do not have so many programs for older adults. USA? Yes, it is close to México (I am Mexican) and it has different educational programs for older adults.

I came to the United States, and as part of my doctorate classes I developed a pilot project of my dissertation. I taught a course for older adults in a senior center. The topic was brain fitness (a course for promoting cognitive health), but curiously, people from the course started to do different things for other people, like going and helping with grandchildren or being more open to communicate with people that they would not talk to before. In the

results I also observed that participants improved their relationships within their families. Social networks, volunteerism, and trust are components of community well-being. So, new questions again. Is their greater involvement related to the course? How do participants' attendance to the course influence their behavior? What role does education for older adults have in participants' well-being? What role does it have in the community?

Those questions have continued to guide my journey in developing this dissertation study. My dad died during the first year of my doctoral program here in the United States. As I said, in honor of him, it is time to find the answers to some of the questions that he helped foster in me in his initial idea about developing programs for older adults that would not only help them on an individual level but also enhance their involvement with others in the community. *The purpose of this dissertation is to explore participants' experiences and perceptions of community well-being as a result of their participation in a learning institute for older adults, and in a particular holistic course aimed at the overall promotion of cognitive health.* To a certain extent, there is an action research component of this study; I taught a two-part course intended to address multiple dimensions of being (physical, social, emotional, and spiritual) and minimize the risk of having cognitive decline based on prior research (Coley et al., 2008; Mangialasche et al., 2012; Valenzuela et al., 2006, Yu et al., 2009). Cognitive decline is an important topic within older adults because it may limit their independence and negatively affect their emotional control and social behavior (James & Hope, 2013). It is also the first symptom of the most prevalent type of dementia: Alzheimer's, a neurodegenerative disease (Whitehouse & George, 2008).

My intention was to address two inter-related components within the same study. First I analyzed how the participation of older adults, both at the institute and in the two part

course itself, affected their life satisfaction and social networks within the community, and thus their perception of community well-being—a topic that has not been researched. And second, I taught a course aimed to promote cognitive health within the senior population.

With the above discussion as a grounding discussion, this chapter provides academic background to the issue, a purpose statement, research questions, and a brief discussion of the theoretical frameworks that guide this research. Additionally, an overview of the case study and the action research methodology is provided. Moreover, the significance, assumptions, and limitations are discussed. At the end, the chapter presents definitions for terms used in this research.

Background to the Problem

Demographic change due to increased life expectancy is affecting most of the countries in the world (WHO, 2014). As the number of older people increases worldwide, countries need better services in order to face demographic challenges. Today in Europe there are four people in the working age group per one person aged 65 years. But by 2050 in Italy, for example, there will be one person for each individual aged 65 years or older (Lunenfeld, 2008). Since frailty, disability, and dependency will increase the demand of social and health services, it is important to establish preventative measures rather than interventional care for this population.

Although chronological age is a poor predictor of individual behavior, societies use age to classify and stratify individuals. Most developed countries in the world have accepted the chronological age of 65 years as a definition of an older person, but this does not adapt well to the situation in the world. At the moment, the United Nations (United Nations, 2013) agreed to refer people age 60 years and over as the older population and the World Health

Organization (WHO) is following that criteria, too (WHO, 2014). For this study, an older adult is an individual who is 60 years and over.

The elderly population has diverse issues and changes to deal with. There is a loss of physical and mental strength at different rates and in different ways. For some people, there is a loss of income because of low pensions. With retirement, many people feel that they have lost status and standing within the family and the community (North & Fiske, 2012). Furthermore, the diminution in their health (mental and physical) and the losses of loved ones can be accompanied by anxiety, stress, fear, and pain (Goldsmith, 2004). Unfortunately, in the United States, the elderly rate of suicide is significantly higher than the all-ages-combined rate, which clearly indicates that people 65 or older are more likely to die by suicide than those below 65 years of age (Suicide.org). Also, globally, suicide rates are highest in people aged 70 years and over (First WHO report on suicide prevention, 2014).

Even though elders are a very heterogeneous population, seniors are more vulnerable to decreasing social networks as they are at greater risk of losing their partners and friends. Furthermore, elders may be more dependent on other social resources as they get older (Nyqvist, Forsman, Giuntoli & Cattani, 2013). Another important situation is that the aging population has led to an increase in the prevalence of chronic degenerative diseases, including dementias such as Alzheimer's disease. The Alzheimer's Association (2015) estimates that 60% to 80% of the dementia cases are Alzheimer's type. The high prevalence makes the disease very relevant for older adults. The first symptoms are memory problems, trouble with planning or organizing, confusion with time or place, trouble understanding visual images, misplacing things, new problems with words in speaking or writing, and

diminution in one or more cognitive domains such attention, calculations, and orientation (Alzheimer's Association, 2015; Apostolo et al., 2014).

Services that promote the independence of older adults, encourage a healthy living style, and promote social inclusion and active participation in civil society, are positive interventions in order to face an uncertain future full of older adults. Learning institutes and educational programs for older adults are one viable option and exist in different forms worldwide. Through educational programs for older adults, societies can become more informed, more participative and perhaps better societies (Aguilera, 2014). Furthermore, levels of education and cognitive training have been associated with brain reserve capacity and lower risks of cognitive decline and developing dementia type Alzheimer's (Meng & D'Arcy, 2012). So, educational programs can offer positive opportunities for seniors.

Adult Learning and Seniors

Older learners are the most rapidly growing segment of adult learners (Delahaye & Ehrich, 2008). A growing number of seniors are looking for opportunities to continue learning. Learning occurs in formal and non-formal settings. Formal education is highly institutionalized, bureaucratic, curriculum driven, and formally recognized with grades, diplomas, or certificates (Merriam, Caffarella, & Baumgartner, 2007). Even though in more recent years higher education institutions are reaching more adult learners, few senior learners are interested in formal education. Older adults are more interested in non-formal community-based programs (Wolf & Brady, 2010). Non-formal education refers to organized learning opportunities outside the formal education system. These offerings typically have a curriculum and a facilitator, are short-term, voluntary, and have few if any prerequisites (Merriam et al., 2007).

Wolf and Brady (2010) state that for older adults, education is both “a process of understanding and influencing the world and an important life course goal, a way of living in community and understanding the contradictions of a lifetime experience” (p. 369). Many older adults include nonformal learning as meaning making, for employment, inclusion, literacy, self-efficacy, spiritual development, leisure and travel, socialization, the desire for intellectual maintenance, personal development, caregiving and health and wellness (Wolf & Brady, 2010). However, seniors face learning barriers. Requejo (2008) mentioned the following reasons for non-participation in educational programs:

- 1) Situational barriers, where disability, ill-health, not having adequate transport, or having to take care of a frail relative may limit access.
- 2) Institutional barriers could include the absence of institutions focused on older adults, non-user-friendly enrollment procedures, high fees, and inappropriate or unexciting methods of teaching and learning.
- 3) Informational barriers include the failure of an agency to properly communicate learning opportunities and a failure to display advertising information in places which older adults frequent, and
- 4) Psychosocial barriers, which refers to attitudinal beliefs, perceptions, and values that inhibit a person’s participation such as “I am too old to learn” and older adults’ generalizing from previous negative learning episodes (Requejo, 2008).

Despite these barriers, in non-formal educational settings, when the external factors of tests, grades, and diplomas are removed, adults may find themselves coming together in the spirit of freedom and collegiality to learn with and from one another. These

conversations among equals represent the true meaning of adult education (Brady, Holt, & Welt, 2003).

Educational Initiatives for Older Adults in the World

Programs for older adults are proliferating throughout the world and go by different names. There is the Third Age Initiative in Australia (an initiative to include older adults in the workforce), Aulas de Mayores in Spain (a private organization that sells services of leisure and entertainment for older adults), Civic Engagement (older adults volunteering for aging services), Encore Careers (an organization that encourage older adults to develop a second career), New Chapters Centers (specialized treatment centers), Elderhostel-Road scholar (educational trips), and religious institutions (faith-based programs through churches) (Wolf & Brady, 2010).

Programs dedicated exclusively to meeting the educational needs in non-formal educational settings for older adults started in the world during the 1960's and 70's. The majority of them have been created with a system of volunteers and some level of self-governance. Most of these educational programs have implemented a peer teaching system with affordable fees and offer a curriculum heavily focused on liberal arts (Brady & Wolf, 2010). Representatives of these programs in Europe are the University of Third Age (U3A) with two modalities: the French model which takes place in traditional university systems and the British model which is a self-help kind of system. The French model, called the French Universite du Troisieme Age, was initiated in 1972 in Toulouse, and it was guided by the local university. The British model started in 1982. Its founder, Peter Laslett, wanted groups of people to get together to learn what interested them, and they would have, not a teacher, but a group leader who coordinate their efforts. The University of Third age should

not be dependent on public funds, then it does not follow state policies (Becket, 2014). This format is available in many countries around the world such as Australia, United Kingdom, SouthAfrica, Spain, Nepal, Japan, Netherlands, India, and more (World U3A, 2014). Just in the United Kingdom there are 926 schools U3A (U3A, 2012), and in China there are more than 280 institutes that serve over five million seniors (Chia, 2013). These data demonstrate that older people are interested in learning.

In the United States there are Lifelong Institutes (LLIs): they operate in partnership with universities but usually, they have their own board of directors. The movement was initiated in New York in 1962 as an Institute for Retired Professionals. The institute has changed its name and has grown into more than 400 Osher Lifelong Learning Institutes (Brady, Holt & Welt, 2003). The Bernard Osher Foundation offers grants for institutes that demonstrate potential for success and sustainability (The Bernard Osher Foundation, 2005). There are other institutes that are not supported by the Osher Foundation and operate with donations.

Swindell (2002) notes that these educational programs offer “creative and inexpensive ways for assisting older people to engage in the kinds of activity which give them the best chances for maximizing their independence in later life” (p. 1). As will be discussed further in Chapter Two, the literature review of fifteen studies from nine countries (Australia, Brazil, Canada, Chile-Madrid-México, Hong Kong, Poland, Sweden, United Kingdom, United States) indicates that the majority of participants in U3A programs are well educated (more than 16 years of school), white individuals, even in countries that have different races in their population, such as Brazil or the USA. Further these studies show that older learners perceive institutions focused on education for older adults as safe, secure,

and nurturing places (Narushima, 2008, Swindell 2012, Wilinska, 2012). Narushima (2008) noted that “U3A is a safety net where senior students and instructors exchange mental and social support” (p. 685). Participants reported benefits in the social, psychological, and cognitive domain. Regarding relationships, the knowledge acquired facilitate older adults’ communication with people because they have more topics of interest for conversation (Fok, 2010). Moreover, some studies showed the participants’ role within the family changed: they tended to be less ignored (Lamb & Brady, 2005; Narushima, 2008; Zielinska-Wieczkowska et al., 2012). In the psychological area, older learners gained a sense of competence and control; they could find strength and confidence in themselves and they reported greater tendency to experience positive attitudes; and had feelings of independence and autonomy (Fernandez-Ballesteros et al., 2013; Fok, 2010; Hebestreit, 2008).

Different studies reported that educational programs for older adults offer intellectual stimulation and improvement of participants’ memory. In addition, those with less educational attainment appear to benefit most from subsequent training in terms of cognitive function in later life (Heberstreit; 2008, Wight et al.; 2002; Zielinska-Wieczkowska et al. 2012). While these studies make a major contribution to what we know about older adults involved in educational programs, there is no research about how these educational programs impact community well-being.

Community Well-being

Community well-being is a broad concept that has begun to be discussed in adult education (Merriam & Kee, 2014) and has been discussed in the fields of public health, sociology, and community and positive psychology. In these discussions, the term “community well-being” is used rather broadly and encompasses both “well-being” and

“community”. It is a term that has been explained through its components (Murphy, 2014; Wiseman & Brasher, 2008). The term *well-being* itself is informed by the tradition of philosophical and scientific discourses concerned with understanding the relationship between “the good life” and “the good society,” which will vary based on the cultural context and the country (Wiseman & Brasher, 2008). Well-being is seen as a state of being for individuals or groups and is often evaluated against a set of socially determined ideals. The capacity of individuals to realize their potential is affected by collective and social relationships. Hence, the well-being of communities and the well-being of individuals are highly related (Cramm, Dijk, & Nieober, 2012; Wiseman & Brasher, 2008). In general, a community refers to a physical setting, a space of communication and interaction; it is a physical or symbolic space in which people have a sense of belonging, share perspectives, or common interests (Fragoso, 2012; MacQueen et al., 2001). Murphy (2014) defines community as “what people who care about each other and the place they live create as they interact on a daily basis” (p. 3). The author also mentioned that for place-based communities, well-being is understood as a physical setting within which the dimensions of well-being (social cultural, economic, environmental) are evident.

The term *community well-being* then, encompasses the broad range of personal, economic, social, environmental, cultural, and governance goals. Each community, population, group, or society determines the priorities that are of greatest importance (Cox, Frere, West, & Wiseman, 2010). There are different indicators of community well-being around the world. Some are more focused on sustainable development, others on health and quality of life, and others on economic-centered approaches. Researchers may choose to develop a quick or in-depth analysis of one or more dimensions. In their article about

community well-being and older adults, Merriam and Kee (2014) note that community well-being suggests a prosperous and healthy living space for all residents of a community regardless of income, age, gender, culture and so on. However, the interaction of these factors makes it difficult to provide a succinct definition. Merriam and Kee (2014) define community well-being as “the notion of a locality where people are socially interconnected in healthy and prosperous ways” (p. 130). However, this definition is still broad and unclear. Miles, Greer, Kraatz, and Kinnear (2008) note that community well-being has been associated with social quality of life, which includes life satisfaction, quality of life, and social capital, where social capital is defined as the networks and the resources that individuals can have through these networks. In Australia, much of the empirical measurement of community well-being has focused on social capital (Miles et al., 2008). Murphy (2010) presents human capital and social capital as the social dimension of community well-being. Also, Murphy (2010) suggested that this social dimension can be measured through education levels, strength of social networks, population change, and leadership.

Community well-being is not easy to conceptualize because it is largely based on an individual’s self-assessment, and/or is defined in detail by each individual author. Wiseman and Brasher (2008) note the “definition of well-being needs to be contextualized within communities of population and interest, as well as of place” (p. 357). However, as Merriam and Kee (2014) state, “one way to approach the notion of community well-being is to consider in some depth a segment of the total picture” (p. 129). Murphy (2014) also mentions that indicators are manageable bits of data about some aspects of well-being. The different definitions reviewed of community well-being share as common dimensions what

is termed *subjective* well-being and social capital (Meriam & Kee, 2014; Miles et al., 2008, Murphy, 2010). Hence, it is important to review these terms.

Subjective well-being refers to self-reported values (Heo, Lee, McCormick & Pedersen, 2009; Murphy, 2010). Some definitions of *subjective* well-being refer to its dimensions, such as life satisfaction, happiness, positive emotion, engagement, positive psychological functioning, flourishing, and so on (Dodge, Daly, Huyton & Sanders, 2012; Seligman, 2011). McCabe et al., (2011) stated that *subjective* well-being encompasses occurrences of pleasant emotions, minimal levels of negative moods and high measures of life satisfaction. Griffin (1986) explains that well-being varies from person to person. One person can put high value in prosperity and another in freedom, so these cannot be measured in any scale for comparison. Furthermore, Griffin (1986) mentions that many values are irreducible like pleasure or pain and therefore cannot be compared.

Based on the above, the term *subjective well-being* refers to a person's own assessment of her or his well-being. It is grounded in individuals' preferences and takes account of what matters to people by allowing them to decide what is important. It is an everyday experiential possibility that is never complete (Sebnem, Merad, & Snape, 2013). Subjective well-being is used to measure different domains such as health, personal finance, economy, natural environment, and personal well-being (Powell, 2014). From all the subjective well-being measurements, this study will be focused only on the levels of happiness and satisfaction with life that individuals report in their lives (Dai, Zhang, & Li, 2013; Murphy, 2010; Selim, 2008, Tinkler & Hicks, 2011). Selim (2008) noted that life satisfaction is the cognitive evaluative factor of subjective well-being because it is particularly dependent on social comparisons with other important reference groups as well

as individuals' desires, expectations, and hopes. Satisfaction is associated with a person's job, marriage, income, family, leisure activities, and the like. Happiness corresponds to the affective factor of subjective well-being produced by positive and negative events, and experiences in the life of an individual. It is the degree to which individuals judge their life as a whole favorably (Selim, 2008).

The level of *social capital* a person has is also considered a dimension of community well-being. Social capital is used to describe the resources that are made available to individuals or groups by virtue of networks and their associated norms and trust. Moreover, it is used to describe the networks themselves (Balatti & Falk, 2002). In general, the social capital theory states that networks of relationships are resources that can facilitate access to other valuable resources for individuals or groups (Balatti & Falk, 2002). Garman (2006) mentions that, "social capital can play a very important role in community economic development. When individuals are able to come together and work toward a certain common good, they are able to combine their talents for the betterment of others" (p. 32).

In light of the concepts highlighted above, community well-being as defined for this project is the individual's levels of reported happiness and life satisfaction (subjective well-being), and the resources (e.g., fairness, helpfulness, trustworthiness) and networks (e.g., neighborhood connections, trust in different groups of people, sociability) that facilitate cooperation for mutual benefit (social capital).

Community Well-being and Promoting Cognitive Health

While there is not a direct relationship with community well-being and the promotion of cognitive health in older adults, it stands to reason that the promotion of cognitive health is good both for individuals and communities. There is also wide interest in

society in general in dealing with the prevention of cognitive decline, the first symptom of dementia type Alzheimer's. This type of dementia type Alzheimer's is a major cause of disability and institutionalization of older people and places enormous pressures on families, health-care systems, and society (Mangialasche et al., 2012; Shineman & Filit, 2009). So, the ultimate goal for researchers and clinicians is the treatment of dementia, preventing cognitive decline and loss of quality of life. No curative treatment is available, but research provides evidence of protective factors that can be addressed to prevent or delay cognitive decline and/or the onset of dementia type Alzheimer's (Lautenschlager, Anstey, & Kurz, 2014; Mangialasche, 2012; Naqvi et al., 2013). Protective factors include the active engagement in mental, physical, and social activities (Landau et al., 2012).

Individuals differ in their susceptibility to neurodegenerative diseases (Yu et al., 2009). Mild cognitive impairment (the first stage of dementia type Alzheimer's) is likely a product of multiple factors including individual differences, methods for processing tasks, occupation, education, work environment, coping skills, cognitively stimulating leisure activities, and use of health services. Recent scientific advances suggest that after damage, the human brain can reorganize and experience functional improvements because some neurons are plastic and regenerative (Yu et al., 2009).

Mild cognitive impairment affects the overall well-being of seniors and their families. A treatment, pharmacological or non-pharmacological, that delayed the onset or slowed the progression of cognitive decline would result in benefits for individuals and for their communities. Naqvi et al., (2013) developed a literature review regarding what interventions might be effective in preventing cognitive decline in older adults and they concluded that there is no consistent evidence of benefit from any pharmacologic agent. The

evidence for physical activity is weak, but formal cognitive training exercises may have a benefit in preventing cognitive decline.

Coley et al., (2008) also developed a literature review assessing factors associated with both the prevention of Alzheimer's type dementia and cognitive decline. As part of their results, they found an inverse relationship between social engagement and the risk of Alzheimer's dementia or cognitive decline. So when there is more social engagement, the risk of cognitive decline decreases. Therefore, the participation in a course focused on promotion of cognitive health may impact, positively, the participant's level of social engagement, and hopefully delay their cognitive decline.

Education, Community Well-being, and Older Adults

There is research that explores social capital (a dimension of community well-being) and health in older adults in different countries throughout the world. Forsman et al., (2013) in their study about health and social capital in Vaasa, Finland found that shared life events, social support, mutual appreciation, trust, and sense of belonging between participants and family and friends have a positive impact on the participants' experienced mental health. Furthermore, Ramlagan, Peltzer and Phaswana-Mayufa (2013) conducted a study exploring the association between social capital and several health variables among older adults in South Africa, and found that increased social capital "is imperative for better health" (p. 1). In Japan, Imai, Kondo and Kondo (2011) conducted a study where they found that happiness (a dimension of subjective well-being) among older adults is related to the frequency of going out, and trust of people from the local community, among other variables. Trust is a component of social capital (Narayan & Cassidy, 2001). Based on these research studies, it appears that social capital has a positive effect for the senior cohort.

There are also studies that examine the relationship between ongoing education for adults throughout the world that relate to community well-being, though these studies are not specifically about older adults. Alshebou (2010), for example, conducted a study in Kuwait examining the contribution that continuing education can make to society on the economic and social dimensions. The authors analyzed training programs from different disciplines including traditional academic courses, and vocational and liberal studies. Their findings reported that 82.1% of respondents experienced social benefits and 74.2 % economic benefits. The social benefits are: getting encouragement to help and work with others, being encouraged to accept individuals from different cultural and social backgrounds, and widening their social networks. Balatti and Falk (2002) examined the impact of adult learning on the community by analyzing ten programs that offer adult and community education (excluding higher and vocational education) in the state of Victoria, Australia. The authors explored how these programs contribute to the social capital of the communities within which they operate. In the results, they observed that the ten programs analyzed did produce benefits for the participants and for the communities of which they are members. Participants reported that “increased networking and increased self-confidence led to community action, which in turn led to community benefits” (Balatti & Falk, 2002, p. 291). Also, participants were able to benefit from resources held by groups that they had not been able to access previously; the adult education providers were the catalysts or facilitators for the development of new networks or connections. Furthermore, the benefits that the wider community gained were cost savings from reduced demand on health services, law enforcement, and social welfare services. Hence, the benefits of adult learning can go beyond individual satisfaction, course completion, and employment, and they are

brought about as much through the learner's identity formation and reformation as through knowledge and skills (Ballati & Falk, 2002).

Alshebou (2010) and Ballati and Falk (2002) studies stated a relationship between education and social benefits; however, thus far there are no studies conducted specifically with older adults. Merriam and Kee (2014) argued that community well-being can be fostered by promoting lifelong learning for older adults. The assumption is that enhancing the social capital of older adults, will have consequences for their subjective well-being and for community well-being.

Problem Statement

As indicated above, older adults potentially face several difficulties in their senior years. The difficulties vary because people over 60 are not a homogeneous group. There are older people with excellent physical and mental health, who are independent, and who have an enjoyable old age, and there are others who struggle with isolation, ill health, and issues of cognitive decline. While all of us will eventually die, it is important in an aging society to help older adults engage in meaningful activities that increase their well-being for as long as possible. Researchers and adult educators have an important role to play here in developing adult learning opportunities that will focus on strategies that can mediate or prevent the negative effects of normal difficulties and to enhance the quality of life of aging populations. There are studies that show the positive effect of social capital on older adults' well-being (Kondo & Kondo, 2011; Ramlagan et al., 2013), there are studies that relate adult education and community well-being (Alshebo, 2010; Balatti & Falk, 2002), but there is a lack of studies that linked adult education and community well-being in the senior cohort.

Purpose and Research Questions

Given the lack of such studies, the main purpose of this qualitative study is to explore participants' experiences and perceptions of community well-being as a result of their participation in a learning institute for older adults and in a particular holistic course aimed at the overall promotion of cognitive health. As discussed above, community well-being refers to the participants' subjective well-being (happiness and life satisfaction), and their social capital (resources and networks). Moreover, I taught a two-part holistic course as a way of promoting cognitive health and hopefully, preventing cognitive decline in the primary level (when symptoms have not appeared). The topic was selected because it is relevant for this age population. To a small extent, I also compared the results of the learning institute here in the USA with my experience of such programs in México.

The research questions that guided this study included:

- a) What is the overall context of this learning institute and its aims in providing learning opportunities for older adults in a particular community?
- b) How do participants perceive that their involvement in the institute affects their subjective well-being, social networks and their participation in different groups inside and outside of the institute?
- c) How do participating senior learners describe significant experiences in specific classes related to cognitive health and well-being?

Theoretical Framework

The current study draws on two primary theoretical frameworks that are further described in Chapter Two. The first will be the lens for understanding the main purpose of the study: community well-being. The second framework, neuroplasticity, serves as a

reference for developing the holistic course. It includes the Scaffolding Theory of Aging and Cognition (compensatory scaffolding) (Park & Reuter-Lorenz, 2009) and the Brain Reserve Theory (Meng & D'Arcy, 2012; Valenzuela & Sachdev, 2005).

Community Well-Being

As mentioned above, community well-being is a broad term, but for this study, it refers to the individual's levels of happiness and life satisfaction (subjective well-being) and social capital. Social capital refers to the norms (e.g., fairness, helpfulness, and trustworthiness) and networks (e.g., neighborhood connections, trust in different groups of people, and sociability) that facilitate cooperation for mutual benefit (social capital).

Social capital will be based on the Theory of Social Capital which emerges in the sociological field. Narayan and Cassidy (2001) developed an analysis about what measurements could be more appropriate for measuring social capital. After examining 25 existing questionnaires and qualitative data instruments used in different countries, they recommended the following list of items for measuring social capital: 1) group characteristics, 2) generalized norms, 3) togetherness, 4) everyday sociability 5) neighborhood connections and volunteerism, and 6) trust in different groups of people. Narayan and Cassidy (2001) also included two variables as predictors of social capital: pride and identity, and communication.

Neuroplasticity

In order to improve cognitive function the aging brain must have plasticity, “the ability to change structure of function in a sustained manner in response to some type of external stimulation” (Park & Bischof, 2013, p. 2). Interestingly, it has recently been shown that cognitive training can promote neural and cognitive plasticity (Draganski et al., 2006;

Scholz, Kein, Behrens, & Johansen-Berg, 2009). These brain changes are associated with better cognitive strategies. The scaffolding theory is important in order to understand how the neuronal and cognitive plasticity operate in older adults. The Scaffolding Theory of Aging and Cognition (STAC) provides an integrated view of the many changes that occur in the neurocognitive system with age (behaviorally, structurally, and functionally), and relates these changes to neuroplasticity (Park & Bischof, 2011, 2013). Another related concept is brain reserve, the ability to tolerate the age-related changes and disease-related pathology in the brain without developing clinical symptoms or signs of disease. Both concepts will be discussed in-depth in Chapter Two.

Significance

Older adults are a heterogeneous population that faces different problems. Some older adults can be very healthy and independent until later age, and others can present many difficulties in their 60s. However, a reality is that the world's population is aging which implies changes in the society. As professionals, we must develop strategies that can help the society face these vicissitudes. This study is focused on two strategies, the central one being that: 1) learning institutes for older adults as a catalyst of community well-being, and the peripheral one: 2) a primary prevention strategy for promoting cognitive health.

If subjective well-being and social capital increase among the older adult population, seniors will be more emotionally independent (they feel better, they need less), they will rely more on their personal and social resources, and maybe they will contribute more to their communities through social engagement or volunteerism. Moreover, seniors may rely less on social and health care services, which will benefit their economy and their communities. I

consider that through increased community well-being among individuals, communities can become more sustainable (Alshebou, 2010).

Moreover, it is important to know about the impact that educational courses focused on older adults can have on their participants. Regarding older adults, perception is crucial. Seniors can have many physical difficulties, but if they have positive perceptions of well-being, then they are doing well. On the opposite side, they can perceive many problems even when physically they are in good shape. So, in some cases, perception can be more relevant than measurements.

It is important to explore the relationship between education and community well-being, then learning institutes for seniors can be recognized as a medium for promoting well-being among older adults and among the communities to which these individuals belong.

As adult educators, we have the duty to show the benefits and to promote support for this type of educational program. If national policies include learning institutes for older adults as part of the social care system, these types of institutions will have stronger administrative structures and enroll more seniors. Furthermore, complex mental activities and years of education are highly associated with brain reserve and the scaffolding theory. Maybe, through learning opportunities, older adults can develop neuroplasticity processes and protect their cognitive functions. If, as educators, we promote actions to delay cognitive decline, we are helping our societies.

Based on the advantages that social capital can offer to the community, the focus of adult education for the senior community must be on programs that promote social capital. Adult educators should collaborate with learning institutes for older adults in order to

develop effective educational projects for this population. As individuals, we have to leave the world better than we found it. My contribution is to promote more learning institutions for seniors, a goal which can be supported by the results of this dissertation.

Moreover, the opportunity to develop a holistic course based on neuroplasticity enables me to collaborate with the institute. It was not expected to observe measurable changes in the participants' brains or to observe an immediate benefit in their cognitive function. However, this course may help participants in the long run, and it is a pathway to developing future research.

This study has particular personal significance. In 2011, I created a learning institute for older adults in México. I observed so many positive changes in the senior learners that I decided to do my dissertation on this topic. Running this study in the USA allowed me to compare two institutes and to observe the results from two countries. Even though I did not collect information from México, I was the principal of the learning institute for seniors and had first-hand experience, so I could observe the differences and similarities among the programs.

This study contributes to the adult educational field by enhancing awareness about the benefits that learning institutes for seniors can have on the participants and in their communities. It also provides a model that links learning institutes for seniors with community well-being.

Overview of Methodology

This is a qualitative case study with a course informed by the action research methodology. As will be discussed further in Chapter Three, the overall design of the qualitative study intends to understand the meaning individuals ascribe to a social or human

problem (Creswell, 2009). The qualitative approach includes interpretive techniques which describe, decode, and translate the information (Merriam, 2009). It is flexible and emergent. Usually, the sample is small, non-random, and purposeful, based on the researcher's interest. The main aim of a qualitative study is to select unique cases with the purpose of producing detailed information and in-depth understanding of the people or phenomena studied.

One type of qualitative design is case study which refers to an exploration of a system over time through different sources in order to obtain rich information in context (Creswell, 2009). This design provides an appropriate research avenue to understand how a group of older adults participating in a course that is offered through an institute for older learners relate their experience to their community well-being. The learning institute is a natural bounded system and this study will be focused on the institute and the senior learners' experience. To some extent, this study is informed by the action research methodology because I taught a two-part course for promoting cognitive health. An action research demands some form of intervention. It builds theories and descriptions within the context itself and is looking for effecting some change in the situation while the research is going on (Levin & Martin, 2007, Herr & Anderson, 2015). Action research goals are the generation of new knowledge and the achievement of action-oriented outcomes. Results have to be relevant to the local setting. The goal is to understand and initiate change in the contexts being studied (Herr & Anderson, 2015).

This case study explored how the participation of a group of older adults in a course and in a learning institute for seniors impacts their perception of community well-being, specifically through two dimensions: subjective well-being and social capital. The holistic course was informed by the action research methodology and was designed as a primary

prevention strategy for promoting cognitive health, and hopefully, preventing cognitive decline. Cognitive decline is the first symptom of some dementias, including type Alzheimer's. Through cognitive stimulation individuals increase brain reserve, the ability of the brain to tolerate the age-related changes and to limit the clinical expression for symptoms until the brain cannot compensate for the physical degeneration (Fernandez-Ballesteros et al., 2012; Meng & Arcy, 2012; Willis & Schaie, 2009). Based on the above information, during the course, participants used their senses and did exercises in diverse domains such as perception, reasoning, memory, solving problems, and communication. The details of the course will be presented in Chapter Three.

Action research focuses on effecting change while the research is going on (Herr & Anderson, 2015). It seeks to understand and resolve place-based problems and issues. Probably, we will not observe changes in the cognitive decline process. But based on the theoretical and research literature, there is a high probability that through cognitive stimulation, there will be cognitive reserve, and hopefully the delay of cognitive decline (Draganski et al., 2006; Scholz, Kein, Behrens, & Johansen-Berg, 2009). It is important to remember that promoting cognitive health is the topic of the course, but is not the main topic of this study. It is a primary prevention intervention because it is an action before the problem or the issue appears. It is informed by the action research methodology because there is a problem: cognitive decline. There is an action-intervention: a holistic course, but there are no results expected in the cognitive domain. While the course is a strategy for preventing the condition from occurring, however, the study itself is not examining how such a strategy actually prevents cognitive decline, because that is really difficult to measure. Rather the study examined participants' perceptions of how this affected their

well-being. During the process of the action research, it was possible to observe and to collect data about how the participation of seniors in the course and in the learning institute related to their community well-being, which was the main goal of this case study.

For this study, the sample was fairly typical of seniors who participate in learning institutes for seniors. The institute itself is crucial because attendants have the intention to participate in educational activities. The criteria for participant selection was that they are 60 years or older, they participate in the eight sessions of the holistic course for promoting cognitive health, they be functional (not diagnosed with dementia), and they be independent (i.e., they can come to class by themselves).

Qualitative research makes use of different data collection methods such as observations, interviews, documents, and audio-visual materials (Creswell, 2009). For this case study, I used observation, a critical questionnaire, and semi-structured in-depth interviews with the senior learners. The questions were related to their perception of community well-being, which includes subjective well-being (happiness and life satisfaction) and social capital, and their experience during the course in this particular institute. Details of the methodology are discussed further in Chapter Three.

Assumptions

Underlying this case study are two different types of assumptions. Some are related to the main purpose of the study, and some are related to the holistic course for promoting cognitive health.

The assumptions that I hold related to the study's purpose are:

1. Learning institutes for older adults promote the participation in other groups and the creation of new social networks inside and outside the learning institute.

2. Levels of subjective well-being (happiness and life satisfaction) and social capital impacts participant's perception of community well-being.
3. Social capital needs specific conditions to develop (for example, trust, a physical place to share things, a nurturing environment, and so on), and learning institutes for older adults can generate this proper environment.
4. Learning institutes for older adults are beneficial for its participants.

Assumptions related to the course are:

1. Primary prevention interventions for promoting cognitive health (based on cognitive reserve) must be developed among healthy older adults before the brain is highly deteriorated.
2. Developing brain reserve, older adults may be protected from losing their cognitive abilities, or their cognitive skills can stay longer.
3. The aging process implies losses, and older adults have to know how to handle them.
4. Holistic interventions and the stimulation of different areas of the brain will help to develop cognitive reserve or to recover functions through the neuroplasticity process.
5. The cognitive intervention benefits the participant's cognitive health and promote cognitive reserve.

Limitations and Strengths of the Study

Every study has limitations and strengths. The potential limitations of this study include:

1. This is an exploratory study. It is focused on a group of older adults in a specific learning institute, therefore, it is not generalizable to other older adults.

2. This study analyzes how the participation in a learning institute for older adults and in a particular course impact their perception of community well-being (subjective personal well-being and social capital). But, the study does not rely on quantitative measurements. The information relies on my observations during the course and the perception of the participants. Quantitative measurements reflect a moment in the life of a person but perception offers more information about someone.
3. It is difficult to establish boundaries between the topic of the course and the learning institute experience.
4. The topic of the course is to promote cognitive health, however, there is no way to observe the neuroplasticity process because it is a primary prevention intervention.
5. The holistic course has different components interrelated, so one component cannot be considered better than another.
6. I have been raised in a collectivistic culture and this study can be culturally biased.
7. Participants and I established a relationship that probably influenced the findings of the study.
8. I am from México and English is not my native language. Hence, I tried to capture all the meaning and essence of the communication, but there can be some missing information.

As I mentioned above, studies have limitations as well as strengths. The potential strengths of this study are:

1. As is the case for many forms of educational research about teaching and learning (Herr & Anderson, 2015), the teacher is the researcher. This is a powerful resource because I was with the group observing every person and having a relationship with

all participants; therefore, I understood better the information. Furthermore, as teacher and researcher, I observed participant's reactions in the process and took notes. A case study requires in-depth analysis, so being an insider was a powerful strategy for observing the learning institute.

2. As qualitative study, this research has the purpose to generate knowledge and understanding for the field of adult education on how learning institutes for older adults impact their perception of community well-being. But, also as part of the study, I taught a holistic course with the intention of applying primary prevention among a group of older adults. The participants acquired strategies that may help them to work on their brain reserve process.
3. The course was holistic, so the brain and the individual were considered as a whole. Moreover, the topics were meaningful for the participants.
4. The content of the course is unique and it is based on a lot of research on neuroplasticity and holistic interventions, so hopefully it will make a difference in the future skills of the participants. The course offered exercises that older adults can practice on their own and with this, develop brain reserve and maintain cognitive skills as much as they can.
5. This study serves as support for developing more educational institutions focused on older adults.

Definition of Terms

1. Action research. It is a study that focuses on improving practice, making interventions, and studying the results while the research is going on (Levin & Martin, 2007; Herr & Anderson, 2015).

2. Brain reserve. It refers to the neurological and cognitive changes that allow the brain to function properly and to tolerate age-related changes and pathologies without developing clinical symptoms.
3. Community. A physical setting, a space of communication and interaction; it is a physical or symbolic space in which people have a sense of belonging, share perspectives, or common interests (Fragoso, 2012; MacQueen et al., 2001).
4. Community well-being. The term community well-being encompasses the broad range of economic, social, environmental, cultural, and governance goals (Cox, Frere, West, & Wiseman, 2010). For this study, community well-being includes subjective well-being and social capital.
5. Holistic course. It is an eight-week course developed for promoting cognitive health. Each session includes six types of activities: new information (neuroplasticity), cognitive stimulation through senses, emotions, meditation and spirituality, social impact, and physical activity. Every session will have exercises from each component.
6. Learning institute for older adults. Programs dedicated exclusively to meeting the educational needs of older adults.
7. Neuroplasticity. It is defined as the ability of the brain to change structure or function in a sustained manner in response to some typical or external stimulation (Park & Bischof, 2013, Swartz, 2011).
8. Older adult. An individual who is 60 years and over. Primary prevention. In the health area, it refers to strategies that prevent a condition from occurring.

Interventions that involve primary prevention would need to be initiated early in the lives of individuals, and the results will not be observed until much later.

9. Qualitative research. It is a study design that intends to understand the meaning that individuals of groups ascribe to a social or human problem and to produce in-depth understanding and detailed information about the topic studied. (Cresswell, 2009; Merriam, 2002)
10. Social capital. It consists of the norms (e.g., fairness, helpfulness, and trustworthiness), resources, and networks (e.g., neighborhood connections, trust in different groups of people, and sociability) that facilitate cooperation for mutual benefit (Garman, 2006; Miles et al., 2008; Narayan & Cassidy, 2001).
11. Subjective well-being. An individual's levels of happiness and life satisfaction (Dai, Zhang, & Li, 2013).
12. The Scaffolding Theory of Aging and Cognition (STAC). It suggests that after the brain suffers deterioration (natural or by a specific circumstance), the brain has the capacity to reorganize or create natural scaffolds that preserve cognitive function.

CHAPTER TWO

LITERATURE REVIEW

The purpose of this research was to explore participants' experiences and perceptions of the development of community well-being as a result of their participation in a learning institute for older adults and in a particular holistic course aimed at the overall prevention of cognitive decline. The institute is the case itself, but this study also analyzed the learners' experience of those seniors who participate in the course. In accordance with the purpose of this study, this chapter addresses the pertinent literature related to this research.

The chapter begins by providing a discussion of older adults in a worldwide context and then proceeds to the second section where the theoretical framework of the study itself, community well-being, is discussed. The third section focuses on the theoretical framework of a holistic course that was offered within the learning institute as grounded in the neuroplasticity and brain reserve literature in light of studies of health and cognitive decline in the aging population. Finally, the last section discusses the role of education and learning institutes in later life.

Older Adults in a Worldwide Context

The world's population is aging and with this, the conditions for older adults are going to change. It is a global phenomenon resulting from rapid declines in fertility rates coupled with reductions in mortality and increased longevity (highly related to advanced medical technologies) (United Nations, 2012). By 2050, older adults (60 and over) are going to be 30 percent or more of the population in developed countries (United Nations,

2012). An ever-growing-older population will inevitably change the social structure of age (North & Fiske, 2012). Adult educators who work with this age cohort have to be aware of these circumstances.

Older Adults

It is difficult to define an older adult because definitions often vary based on cultural perceptions, the circumstances, and the type of classification (activity, chronology, retirement, etc.). Based on the chronological age, many developed countries consider old age to be 65. However, the United Nations (2013) defines an older adult, woman or man, to be 60 and over. The National Council on Aging (NCOA) (2012) mentioned that one in three older adults is economically vulnerable, and three in four cope with multiple chronic conditions, such as diabetes, heart disease, or arthritis. Older adults often face the same difficulties that other disadvantaged groups face such as low incomes, low status, and unequal opportunities (Cox, 1996, Wolf & Brady, 2010). Moreover, senior adults tend to experience more health problems and thus use more health services than younger individuals.

In the economic world, older adults are less relevant because most of them are retired (North & Fiske, 2012). Into middle age, they gain more resources (prestige, influence, income, wealth, employment, mainstream media coverage, and societal leadership positions). In older age, people begin to tail off, ceding a degree of resources and receiving less mainstream exposure, relegating them to lower-status and irrelevant positions. The number of older people is expected to grow in the world which raises important challenges such as meeting the higher demand for healthcare and adapting health systems to the needs of an aging population. So as adult educators, we have to generate opportunities and services

that help older adults to be independent, to maintain their physical and mental functions as much as possible, and to generate inclusive societies where different generations work together for better communities. Only those who are committed to making positive responses to the problems can realistically face the challenges of an aging world.

Adult Education and Seniors

As societies, we have to find appropriate ways to maintain older adults as relevant and valuable citizens, healthy and capable, and help them to have a less difficult old age (Goldsmith, 2004). Education is one viable option. Adult education's purpose is the facilitation of changes in a society, the support of the social order, the promotion of productivity, and the enhancement of personal growth (Rose & Ross-Gordon, 2010). Adult education experiences are one possibility for older adults to be active, physically and mentally (Wolf & Brady, 2010). Hansman and Mott (2010) explained that the number of older people who continuously participate in jobs or other educational activities is growing.

The participation of older adults in mainstream adult education has not been commensurate with their percentage of the population (Findsen, 2005). People who attend educational institutions are "the resilient older people who persevere in a meritocratic system" (Findsen & Formosa, 2011, p. 87). People with ageist stereotypes often consider that the elderly are cognitively deficient and lack the modern tools of learning. Some reasons argued are the characteristics and circumstances that surround older adults in the learning process such as less senso-perceptive functions (related to vision, audition, and psychomotor activities) and slower capacity to apply intellectual skills to new situations. Nonetheless, there are technological resources that allow people to overcome these possible deficiencies with success (Requejo, 2008). Although aging generally comes with certain difficulties and

the adaptation to different changes is slower than other ages, these situations can be overcome by using new styles and forms to learn (Requejo, 2008). There are different educational programs in the world that confirm that older adults not only can learn, but also enjoy learning experiences (Jarvis, 2001).

Education is differentially experienced in later adulthood. The meaning given to later life study is idiosyncratic, and students need to negotiate their pathways in the sub-cultures of the institutions. Nevertheless, through education older adults can often develop greater self-confidence and go beyond stereotypical deficit beliefs about their capabilities (Findsen & Formosa, 2011). The instructional strategies and educational settings for learners aged 50 years and older should provide a feeling of social inclusion that generates motivation, enthusiasm and a sense of community (Findsen & Formosa, 2011; Formosa, 2012). The course material must engage older learners' imagination, and reflect the real world, rather than some abstract component. Teachers have to be sensitive to the needs of older adults, combining visual and audio teaching strategies. They have to be sensitive to learners' moods and other things which may be going on with their lives which may affect their ability to participate. Older adults' teachers and institution coordinators must understand the circumstances that older learners face and plan their lessons with this vision in mind.

Governmental priorities around the world do not support education for older adults (Findsen & Formosa, 2011). Older adults have mobilized themselves to secure their rightful access to education. Those that have more ready access are those who have already been successful within the education system. Marginalized groups such as older people are on the periphery of the labor market and education system. Disparities in participation come about

because of inequalities in wider society and subordinate groups need to contest their place in educational institutions (Findsen & Formosa, 2011).

As educators, we contribute to the societies transmitting information, but we also contribute to developing the systems and beliefs that people will have. Wanted or not, we are a part of the evolution. Our ideas and actions will impact our audiences. As adult educators, we have a privilege, a special power that can leave a mark. We cannot ignore this power; instead, we have to use it to improve our societies. We can ask ourselves how we should live and treat each other, and act in consequence, especially regarding older adults (Hill, 2006; Wright, 2008). When looking for better societies, the term community well-being become relevant (Merriam & Kee, 2014). If adult education can impact the community well-being of older adults, this population may face a better senior experience. Community well-being may help seniors to face life complications and the normal difficulties that the aging process entails.

Theoretical Framework of the Study:

Community Well-Being

The theoretical framework of the overall study is the community well-being literature. Community well-being can be tools for assessing the progress of a broad community such as a country or state, or indicators for providing information about a local community in a particular location. The definition of community well-being varies depending the author, the purpose, and the field of the study. Merriam and Kee (2014) define community well-being as “the notion of a locality where people are socially interconnected in healthy and prosperous ways” (p. 130). The term community well-being is a wide-ranging term. Cox, Frere, West, and Wiseman (2010) stated that there is not “a

single, universally agreed or ‘objective’ definition” (p.72), but rather is a framework of concepts about the goals important to citizens and communities. As I mentioned above, the type of community well-being indicators will vary based on the objective.

Community well-being indicator initiatives have been developed as mechanisms for driving and supporting evidence based policy making, such as the Community Indicators for Central Queensland, in Australia. This model developed by Miles, Greer, Kraatz, and Kinnear (2008) presents six domains for covering economic, environmental and social well-being sections in a balanced manner. Cox et al. (2010) talked about the domains that should be included in a broad community and they suggested healthy, safe and inclusive communities; dynamic, resilient local economies; sustainable built and natural environments; culturally rich and vibrant communities; and democratic and engaged communities.

The United Kingdom measures well-being, too, but at the national level. In 2014, the indicators were grouped into ten domains: personal well-being, relationships, health, what people do, where people live, personal finance, economy, education, governance, and natural environment (Powell, 2014). Miles et al. (2008) mentioned that community well-being is a subjective concept associated with factors such as economic prosperity, market participation or the outcome of good social policy. However, these indicators are basically for measuring nations or broad communities.

Community well-being indicators have also been developed for use as a tool for democracy and the expansion of citizen engagement in a local community. These indicators are useful for analyzing the relationships between citizens (Cox et al., 2010). They are focused on the extent to which citizens are able to participate in the social and economic life

of their communities under conditions which enhance their well-being and individual potential (Miles et al., 2008). So, community well-being is identified by individuals and their communities as essential for them to flourish and fulfill their potential (Wiseman & Brasher, 2008). Community well-being relies on the assumption that our capacity to realize our potential is deeply affected by collective and social relationships. What indicators will be used are key factors when undertaking community well-being research (Murphy, 2010). After I reviewed the literature related to community well-being, there are dimensions that appear in most of the texts (Cox et al., 2010; Bernini, Guizzardi & Angelini, 2013; Merriam and Kee, 2014; Miles et al., 2008; Murphy, 2010; Wiseman & Brasher, 2008). One is related to individual well-being called subjective well-being, and the other is related to the social connections and resources that individuals make, and is called social capital.

Subjective Well-Being

Subjective well-being is focused on the ways in which individuals evaluate their lives (Wiseman & Brasher, 2008). It is considered as subjective because it represents each person's normal equilibrium level and it is based on the individuals' perception of their current situation and their aspirations (Dodge, Dally, Huyton & Sanders, 2012). Subjective well-being deals with specific life experiences and it fluctuates. Only recent life events influence subjective well-being. Happiness and life satisfaction are widely used as components of subjective well-being (Dai, Zhang, & Li, 2013; Gundelach & Kreiner, 2004; McCabe et al., 2011; Murphy, 2010; Selim, 2008, Tinkler & Hicks, 2011). Even though both are highly correlated, they are not identical.

Happiness is more emotional and life satisfaction is more cognitive. Happiness is an expression of a general feeling. It is the degree to which an individual judges the overall

quality of her or his own life as favorably (Selim, 2008). It is the emotion of being in a state of joy (McCabe et al., 2011). Happy people tend to be physically healthier, have greater self-control, are better able to cope with negative situations, and are more helpful and prosocial (Maniecka-Bryła et al., 2013). Happiness is associated with positive affect including confidence, an optimistic outlook, likeability, friendliness, liveliness, flexibility, and the ability to handle stress. Being happy is beneficial not only on an individual emotional level but also because happy people tend to exhibit more positive community behaviors. Moreover, increasing levels of happiness are correlated to fewer instances of psychosomatic physical symptoms (McCabe et al., 2011).

On the other hand, satisfaction is related to specific elements in life that can be judged as more or less rewarding. A person can be happy but not satisfied with some component in her or his life (Gundelack & Kreiner, 2004). Satisfaction is dependent on social comparisons with other important reference groups as well as an individual's desires, expectations, and hopes, incorporating a more cognitive, critical appraisal of one's life (McCabe et al., 2011; Selim, 2008). It includes "the tangible aspects of his or her life, weighs the good against the bad and arrives at a judgment of overall satisfaction" (McCabe et al., 2011, p. 183).

Subjective well-being, considered as happiness and life satisfaction, is a desirable outcome among the senior population. It offers benefits for the individual and communities. As mentioned above, people with more happiness tend to be healthier and to exhibit more positive community behaviors. Positive feelings are linked to an increase in competency and resilience (McCabe et al., 2011). The other dimension for community well-being is social capital.

Social Capital

Inasmuch as the majority of the studies about community well-being are related to social capital, this dimension will be deeply explored. The theory of social capital emerges in the sociological field (Narayan & Cassidy, 2001). One of the first authors defining the term was Bourdieu, who made reference to the sum of resources that accrue to an individual or a group by virtue of possessing a durable network. Another important author is Coleman. He defined social capital by its function. He states that social capital consists of some aspects of social structure and it facilitates certain actions of individuals who are within the structure (Narayan & Cassidy, 2001, Garman, 2006).

Social capital is seen as the nature and the extent of networks an individual engages in and its associated norms of exchange (Ramlagan, Peltzer, Pashwana-Mayufa, 2013). The social capital theory states that networks of relationships are a resource that can facilitate access to other resources of value to individuals or groups for a specific purpose such as ideas, information, money, services as well as favors (Balatti & Falk, 2002, Ramlagan et al., 2013). Social capital can play a very important role in community economic development and cohesion. Garman (2006) noted, “when individuals are able to come together and work toward a certain common good, they are able to combine their talents for the betterment of others.” (p. 32). Furthermore, individuals can have accurate expectations regarding the behavior of others by virtue of their participation in relationships that are themselves the product of networks of association (Ramlagan et al., 2013).

Nyqvist et al. (2013) developed a literature review assessing social capital in relation to mental well-being in older people. Even though social capital and mental well-being are very broad terms, the authors found that older people accessing social capital (social

cohesion, strong social networks or quality of support) resources tend to have better mental well-being.

Forsman et al. (2013) analyzed the causal mechanisms of social capital affecting mental well-being among older people. The study developed in Finland found that relationships with family and life-long friends are important for the mutual trust and sense of security developed during a long time period. Moreover, these relationships allow individuals to share life events and related memories as well as the social support and feelings of being loved. Meaningful activities are also important because they provide feelings of being appreciated and enhance a sense of belonging to the social groups. Also, meaningful social activities are essential for maintaining social contacts and enabling interpersonal relationships.

Ramlagan et al. (2013) developed a study aimed to investigate the association between social capital and several health variables, including cognitive functioning, among older South Africans. The authors assessed social capital with six components: cohabiting, social action, sociability, trust and solidarity, safety, and civic engagement. Their results showed that different components of social capital were significantly associated with self-rated health, lower depression symptoms, better cognitive functioning and higher physical activity. The lack of social interaction was shown to negatively impact other people's cognitive functioning. Poor social connections, infrequent participation in social activities, and social disengagement predict the risk of cognitive decline in older individuals. Further, interaction with larger social networks was a marker that leads to less cognitive decline (Ramlagan et al., 2013).

Social capital facilitates the flow of information from those with access to information to those with a need to know. Individuals in a better position can help individuals with information about opportunities that are not ordinarily available to them. Social ties may influence those in power positions to behave favorably toward those who are in less desirable positions and who rely on them for help in improving their conditions. Those in power positions may serve as social credentials for those seeking entry in other institutions. Furthermore, social relations are expected to reinforce an individual's identity and visibility within a social group or community (Alfred, 2009).

Cramm, Dijk, and Nieboer (2012) developed a study in the Netherlands exploring whether social capital through indirect ties and social cohesion (interdependencies among neighbors) positively affect the well-being of older adults. They found that the ability to depend on neighbors for help may attenuate the adverse effects caused by increasing losses and declining gains that come with aging. Moreover, the authors found that neighborhood services, social capital, and social cohesion predicted the well-being of older adults and may act as buffer against the adverse effects of being single and poor. Higher levels of neighborhood cohesion result in higher degrees of social organization, including the provision of instrumental support to neighbors (e.g. support in times of sickness, help with transportation, groceries, and so on). Cramm, Dijk, and Nieboer (2012) mentioned that social capital might provide affective support and enhancement of self-esteem and mutual respect.

Narayan and Cassidy (2001) developed an analysis about what measurements could be more appropriate for measuring social capital. After examining 25 existing questionnaires and qualitative data instruments used in different countries, they created their own. They

analyzed statistically different dimensions and applied their instrument in two countries, Ghana and Uganda. After a reliable analysis, they recommended the following list of items for measuring social capital:

1. Group characteristics which refer to the participation in different groups (type, frequency, participation in decision making, relationship within members, and source of group funding)
2. Generalized norms make references to the helpfulness, trustworthiness, and fairness of people.
3. Togetherness includes how well people get along and togetherness (people feel very close to each other).
4. Everyday sociability which includes how often people participate in group activities or associations, so do activities informally with others (crafts, recreation, meals, etc.).
5. Neighborhood connections refer to trust between neighbors. Volunteerism was included as a measure of social capital.
6. Trust in different groups of people (family, neighbors, religion group, service providers, among others).

It is important to mention that developing social capital is not automatic. The greatest levels of social capital can only be leveraged through a conscious effort to do so (Garman, 2006). Preston (2003), in his study about the relationship between education and social capital, found that this relationship was not naturally constructed. Education and learning do not automatically generate virtuous cycles of social capital; rather they depend

also on the individual's biography, type of learning, and structural considerations such as class, gender, and race.

Improving happiness and life satisfaction (subjective well-being), and social capital, two main dimensions of community well-being, may be great resources for older adults because they can have more resources to overcome the normal changes and vicissitudes that the aging process entails.

Theoretical Framework of the Holistic Course:

Attempting to Prevent Cognitive Decline

Another important area where adult education can impact older adults' lives is in the area of cognitive health. Older adults tend to have changes in the physical and cognitive domain as they age. The older population is very heterogeneous and the majority of them are functional, though they can struggle with some cognitive abilities such as memory or inductive reasoning. Furthermore, many of them struggle with chronic degenerative diseases such as diabetes, heart disease or dementia. For that reason, this study includes a course for older adults aimed at promoting cognitive health that I, as the researcher offered in the learning institute, which to some extent, is an action research component of the study. It is important to discuss the literature and theoretical framework that informed the construction of the course. Hence in this section I discuss first the cognitive decline and Alzheimer's disease literature to provide context, and then the neuroplasticity and brain reserve literature that relates to cognitive health.

Cognitive Decline and Alzheimer's Disease

Population aging has led to an increase in the prevalence of dementia. In many cases, cognitive decline is the first symptom of this degenerative disease (Apostolo et al., 2014).

Dementia comes from the Latin meaning "madness, insanity," literally "a being out of one's mind" (Harper, 2014). Dementia is a non-specific term that encompasses many problems that occur during the lifespan. It can be reversible or not depending on the cause (Alzheimers. net, 2014; Hill 2013; Whitehouse & George, 2008). It is a brain disorder that affects communication and performance of daily activities, even in children and young adults. However, it is often associated with the cognitive decline of aging. While symptoms of dementia vary greatly, at least two core mental functions must be impaired to be diagnosed with dementia: memory, communication and language, ability to focus and pay attention, reasoning and judgment, and visual perception (Alzheimer Association, 2014).

Dementia and Alzheimer's Disease. Mangialasche, Kivipelto, Solomon, and Fratiglioni (2012) indicated that prevalence and incidence of dementia have risen exponentially and "70% of all dementia cases occur in people who are at least 75 years old" (p. 1). Dementia is an umbrella term for a set of symptoms including impaired thinking and memory. Different conditions can cause symptoms of dementia, such as thyroid problems, vitamin deficiencies, traumas, infections, depression, environmental toxins, or drug abuse. These types of dementia are considered reversible because people can recover their functions. It is a temporary condition that can be reversed or cured. There are others called progressive, meaning symptoms start out slowly and gradually get worse (Alzheimer's Association, 2015). There are many types of progressive dementia, and although Alzheimer's disease is thought to be the most prevalent one, there are other types, such as vascular dementia, Lewy body dementia, frontal lobe dementia, Pick's disease, Parkinson's disease, Huntington's disease, and Creutzfeldt-Jakob disease (Whitehouse & George, 2008).

The Healthy Brain Initiative (2013) stated that 40 percent of the population is concerned about Alzheimer's for either themselves or a loved one. Alzheimer's disease is incurable. On the biological side, Alzheimer's disease is neurodegenerative brain damage. It is related to the formation of abnormal clumps (neurotoxic amyloid plaques) and tangles in the brain that interfere with normal communication among neurons, causing problems in different areas and irreversible changes in the brain. Plaques and tangles are considered two of the main features of this type of dementia. Though most people develop some plaques and tangles in their later years, those with Alzheimer's tend to develop more. Currently, scientists still do not know exactly how plaques and tangles harm the brain, so the amyloid plaques is a major hypothesis, but not sufficient for explaining the disease (Alzheimer Association, 2015; Meng & D'Arcy, 2012; Small & Vorgan, 2011; Whitehouse & George, 2008).

This is pertinent not only because it is something important for the people, but because dementia, and especially Alzheimer's disease (AD) has a high impact on the families and the society. From the economic perspective, during the forty-year period from 2010 to 2050, the total cost of care for Americans aged 65 and older with Alzheimer's disease will increase five-fold, from \$172 billion to \$1.078 trillion per year. Without including the value of unpaid care provided by families and others, it was estimated to be \$144 billion in 2009 (Alzheimer Association, 2010). For that reason, this specific aspect of health will be reviewed.

Whitehouse and George (2008) provided significant evidence that elderly persons may still function normally with "relatively high concentrations of plaques and tangles on their brains, while others with cognitive and behavioral symptoms of Alzheimer's disease

may be found to have a relatively smaller plaque concentration” (p. 79). Based on autopsy studies, Meng and D’Arcy (2012) mentioned that 10 percent to 40 percent of individuals with mild to moderate brain pathology did not manifest clinical symptoms of dementia. These studies are highly relevant because dementia could be interpreted in two ways. Dementia is not always associated with tangles and plaques or there are other resources that the individuals with tangles and plaques utilize in order to compensate for their brain pathology. Furthermore, regarding cognitive reserve, Hill (2013) commented that individuals with higher levels of Alzheimer Disease pathology (plaques and tangles) on autopsy were cognitively normal during life, and these individuals had a larger number of neurons compared to those who did express clinical symptoms. This was described as greater reserve (Hill, 2013).

Many drugs have been developed for helping with the symptoms (Small & Vorgan, 2011). Some have been effective for some people, but they are not helping everybody or curing the patients. Nowadays, nobody can cure Alzheimer’s disease, so it is important to work toward its prevention. Landau et al. (2012) mentioned that “lifestyle factors found in individuals with high cognitive engagement may prevent or slow deposition of B-amyloid [plaques], perhaps influencing the onset and progression of AD” (p. 623).

Unfortunately, cognitive plasticity is severely impaired in individuals with dementia (Fernandez-Ballesteros et al., 2013). So, in order to observe its benefits, brain reserve has to be promoted before dementia is developed. For that reason the course of this study was focused on cognitive health among healthy seniors. Hopefully, the intervention delays the onset of cognitive decline, the first symptom of dementia type Alzheimer’s. Cognitive decline, also called mild cognitive impairment (MCI), is characterized for noticeable and

measurable diminution in one or more domains (Alzheimer's Association, 2015). The cognitive domains are attention and concentration, executive functions, memory, language, visuo-constructional skills, conceptual thinking, calculations and orientation. Cognitive impairment is an important public health issue associated with increased risk of developing dementia. Therefore, as researchers, we should focus our attention on it (Apostolo et al, 2014).

There are several factors possibly and/or certainly influencing cognitive decline risk including non-modifiable and modifiable risk factors (Srisuwan, 2013). Some non-pharmacological treatments have been intermittently effective, probably because researchers have been focusing on the wrong targets, using single treatments to try to suppress unwanted behaviors (James & Hope, 2013). It is important to consider the multifaceted context of cognitive decline. Finding effective preventive strategies is crucial for a sustainable society in an aging world. Public health efforts promoting a healthier lifestyle have the potential to enhance health status in advanced age (Mangialasche et al., 2012).

Prevention of cognitive decline. Prevention refers to all actions performed to eradicate, eliminate, or minimize the impact of an event (Savica & Petersen, 2011). In medical science, this event is usually a disease or disability. Preventing diseases that affect the elderly will greatly influence their independence and quality of life (Galindo, Samala, & Ciocon, 2011). There are different strategies to minimize functional limitations and increase healthy years. Prevention is defined by three levels, primary, secondary and tertiary.

Primary prevention refers to preventing the condition from occurring and this is accomplished with knowledge of some causes, and interventions to address the causes. Secondary prevention is related to detecting diseases at an asymptomatic stage (e.g.,

screening for cancer, lipid disorders, hypertension) and to delaying the symptoms. Tertiary prevention's goal is to prevent subsequent disability from a disease that has already been recognized. It includes an interdisciplinary diagnostic process to determine frailty and develop an overall care plan (Galindo et al., 2011).

To prevent cognitive decline is difficult. It is a challenge to determine the timing of the prevention strategy. In the field of neurodegenerative diseases, when the symptoms are clearly present, it is too late. The brain is already damaged. So, at the tertiary level the actions that can be done are only for minimizing the symptoms. Regarding secondary prevention, it is difficult to observe the pathology before the symptoms appear because cognitive decline varies. Also, the first symptoms cannot be directly related to cognitive decline because the symptoms are not the same for everybody. The most viable option is primary prevention, to promote behaviors that minimize the risk of having cognitive decline. However, primary prevention is a paradox for researchers because true prevention would mean that the disease would never manifest itself later in life. Even when a program can report benefits in the population, the link with the main disease cannot be observed until several years later. Hence, there are no biomarkers directly related to cognitive decline, and the true impact of prevention may not be appreciated (Galindo et al., 2011; Savica & Peterson, 2011). This is a theoretical dilemma since many studies that involve pure prevention would need to be initiated early in the lives of individuals, and the studies would need to continue for many years. As such, many investigators are choosing to address the disease in the secondary prevention stage in an effort to exert some type of a disease-modifying effect on the underlying pathology (Savica & Peterson, 2011). I chose primary prevention.

Certainly, primary prevention of cognitive decline cannot be observed, but an intervention to promote cognitive health can serve as a goal with intermediate targets being delayed of onset or slowing of progression of cognitive decline or Alzheimer's disease (Alzheimers.net, 2014). In neurodegenerative diseases, these actions would be performed to prevent the symptomatic phase and reduce the risk of disease. If researchers wait until they have a biomarker, the brain is already damaged and there is not much to be done. This proposal is an effort to promote cognitive health, and to some extent, to prevent the disease before symptom onset. Primary prevention commonly employs immunizations, early interventions, and health education. Healthy older adults are most likely to benefit from these interventions. Promoting healthy behavior makes a significant difference in terms of preventing or improving an individual's illness, as well as improving or maintaining his or her mental function (Galindo et al., 2011).

Neuroplasticity, Brain Reserve, and Cognitive Health

Many older adults function well. For that reason, researchers are now less interested in knowing how the brain ages and more interested in how it is well maintained. Slowing decline of the aging mind is both an economic and quality of life issue that impacts the emotional well-being of older adults and their families or care givers (Goh & Park, 2009; Greenwood & Parasuraman, 2010). According to Stern and Munn (2010), "Identifying protective factors or effective prevention strategies may result in considerable benefits through prolonged independent quality of life expectancy, reduced social burden and improved quality of life" (p. 3). Next section will discuss the neurological theories that sustain that specific behavioral experiences, such as education, may have a positive impact on the brain.

Neuroplasticity. Scientists have found that a rigid adherence to routine seems to be associated with declines in brainpower (Seagull & Seagull, 2005). Doing the same routine activates only the same frequently-used pathways of the brain. Other areas of the brain remain inactive, and a narrowing set of strategies can result. With age, it becomes more difficult to activate these quiescent regions and solve problems in a new and different way (Seagull & Seagull, 2005). The mechanism that allows the brain these changes is called neuroplasticity.

The term *neuroplasticity* comes from *neuro* referring to neurons, the brain cells, and *plasticity* from plastic, flexible or modifiable. It is defined as the ability of the brain to change structure or function in a sustained manner in response to some typical or external stimulation (Park & Bischof, 2013, Swartz, 2011). Functional neuroimaging studies have demonstrated that the brain has the capacity to increase the breadth of its function. After an insult, the brain responds to these changes by reorganizing itself, so when one part fails, another can often substitute for it, and if brain cells die, they can, at times, be replaced (Doidge, 2007, Goh & Park, 2009). Even in old age the brain remains capable of plasticity. There are two levels of neuroplasticity, neuronal plasticity and cognitive plasticity.

Neuronal plasticity refers to changes at the neuronal level such as neurogenesis (new neurons), synaptogenesis (new connections among neurons), dendritic arborization (more connections among neurons), and network reorganization (Greenwood & Parasuraman, 2010). These brain changes are associated with better cognitive strategies.

Cognitive plasticity refers to changed patterns of cognitive behavior and involves a contrast between the individual's current performance under normative conditions and one's latent potential (Willis & Schaie, 2009). It has recently been shown that cognitive training

can promote neural and cognitive plasticity, and confer protection on cognitive function (Draganski et al., 2006; Greenwood & Parasuraman, 2010; Knowles, 2010; Landau, 2012; Park & Bischof, 2013; Scholz, Kein, Behrens, & Johansen-Berg, 2009). The scaffolding theory is important in order to understand how the neuronal and cognitive plasticity operate in older adults.

The Scaffolding Theory of Aging and Cognition (STAC). The Scaffolding Theory of Aging and Cognition developed by Park and Reuter-Lorenz in 2009, provides an integrated view of the many changes that occur in the neurocognitive system with age (behaviorally, structurally, and functionally), and relates these changes to neuroplasticity (Goh & Park, 2009; Park & Bischof, 2011; 2013; Rodrigue, Kennedy & Park, 2009). There are three principles or assumptions that inform the STAC theory. First, it assumes aging is accompanied by deterioration of both neural structures and neural function. Second, it postulates that the brain responds to this functional and structural degradation by reorganizing or creating neural scaffolds that serve as supportive structures that preserve cognitive function. Third, according to the STAC model, the degree of neural burden the brain faces, combined with the ability to engage in compensatory scaffolding, ultimately predicts cognitive function. Particularly noteworthy in this research is the “scaffolding enhancement” component of the model, which allows for the possibility that individuals vary in their exposure to experiences, which may enhance their ability to scaffold or create neuroprotective structures.

The STAC model makes the neural mechanisms that could conceivably account for cognitive reserve more explicit by suggesting that more scaffolding is a direct consequence of learning experience, fitness, and training, and that scaffolding confers protection from

some of the cognitive decline that would typically be associated with structural and functional degradation (Goh & Park, 2009; Park & Bischof, 2011; 2013; Rodrigue, Kennedy & Park, 2009).

Heuninckx, Wenderoth, and Swinnen (2008) developed a study comparing young adults (mean age 22. 4) with older adults (mean age 65. 7) and observed that older adults activate more regions in their brains when they reach motor performance levels comparable to those obtained in the younger control. These results suggested a compensatory brain process, offering support to the STAC theory. Another important and related concept is brain reserve.

The brain reserve hypothesis. Brain reserve refers to the ability to tolerate the age-related changes and disease-related pathology in the brain without developing clinical symptoms or signs of disease. Brain reserve has also two major definitions: neurological and behavioral. Neurological brain reserve refers to changes in structural neural characteristics, such as neural numbers or neural networks, which allows, the brain to function properly. On the other hand, behavioral or cognitive brain reserve suggests “complex mental activity across the lifespan allows flexible cognitive repertoires to be deployed in the face of underlying neural dysfunction” (Valenzuela & Sachdev, 2005, p. 441). Also is considered as the extent to which an individual can improve his/her performance in a given cognitive task under specific contextual conditions (Fernandez-Ballesteros et al., 2013; Willis & Schaie, 2009).

Cognitive reserve will limit the clinical expression for the symptoms until a threshold level of brain pathology is reached at which point the cognitive reserve can no longer compensate for the underlying physical brain degeneration (Meng & D’Arcy, 2012).

This is extremely important because even if a disease is present, the symptoms could be delayed through cognitive reserve. For example, it is expected that among those with dementia, individuals with higher cognitive reserve will show greater brain damage than those with less cognitive reserve. Due to the reserve, the individuals will not present symptoms until the disease is advanced, and after the symptoms appear, the decline will be quicker than those who do not exhibit cognitive reserve (Meng & D'Arcy, 2012).

Johansen-Berg, Baptista, and Thomas (2012) presented evidence proving that the brain changes in structure when exposed to learning activities. The authors developed a study with rodents which measures brain water diffusion with MRI (magnetic resonance imaging). Water diffusion in the brain depends on tissue architecture; if there is more space between neurons, cells, and blood vessels, then the water diffuses more freely. When rodents are exposed to learning new tasks, the water diffuses less freely (compared with a control group), suggesting that cells or blood vessels increased in size or number. They also presented a similar study with humans. Participants had to learn how to play a videogame. After two hours, mean diffusivity decreased in the experimental group and faster learners showed greater decreases in diffusivity. The authors commented that the brain presented structural changes after two hours of learning, so the brain is a dynamic structure (Johansen-Berg, Baptista, & Thomas, 2012).

Furthermore, Sampaio-Baptista et al. (2013) did a study with rats and they found that the brain changes when it is exposed to learning, even for a small amount of time. They observed that structural changes in white matter and increases in myelination are associated with the acquisition of new motor skills. The findings suggest that structural plasticity and

growth of new myelin, can occur without the generation of new neurons; in other words, plasticity can occur by developing new paths in the brain.

Seagull and Seagull (2005) mentioned that doing things differently challenges the brain, activates fresh pathways in the neuronal network, and makes additional connections. When nerve cells (neurons) are stimulated in new ways, there is an increased growth of specific chemicals (neurotrophins), which promote the maintenance and health of the nerve cells, acting as brain nutrients (Seagull & Seagull, 2005). These findings are very important because they offer the possibility of reinforcing the theory of neural plasticity based on learning activities. Of course, research cannot explain exactly how the learning process affects the human brain, but these studies motivated me to explore learning programs for older adults. Perhaps, learning processes can help them to increase new cells, or the myelin or the synapses process, or develop the process needed for an adequate communication between neurons. Therefore, it could help to maintain or improve cognitive reserve and/or cognitive function.

The amount of cognitive reserve a person might have has been estimated from education levels, occupational complexity, and frequency of mentally stimulating lifestyle pursuits (Stern & Munn, 2010; Valenzuela et al., 2012; Willis & Schaie, 2009). A study that linked cognitive reserve and older adults was developed by Landau et al. (2012). They assessed the association between cognitive and physical activity and b-amyloid plaques, the most accepted feature of Alzheimer's dementia (AD). Landau et al. (2012) studied cognitively demanding activities (such as reading books, newspapers, writing letters) and physical activities (such as cycling, walking, dancing). In their results Landau et al. (2012) mentioned an association between cognitive (but not physical) activity and reduced plaques.

They also mentioned, “individuals with greater lifelong participation in complex mental activities showed less hippocampal atrophy, another biomarker of AD pathology” (Landau et al., 2012, p. 627).

Ferrari et al. (2013) performed a study with the aim to identify what factors are present in the population that has the APOE 4 (a gene risk factor for dementia) and why these people do not present dementia symptoms. They followed 934 individuals for nine years (mean age 80 years) and collected information on education, leisure activities, vascular risk, and APOE was genotyped. In their discussion Ferrari et al. (2013) mentioned that in carriers and no carriers of the Apoe4 gene, high education, absence of vascular risk factors, and high score in mental, social, and physical activity were associated with a reduced risk of dementia. Finally, high education and leisure activities may play a protective role against cognitive decline by increasing brain reserve (Ferrari et al., 2013).

Cognitive training, leisure activities, and education. Different projects in cognitive training for older adults have focused on efforts to improve thinking abilities in areas such as inductive reasoning, abstract problem solving, spatial orientation, attentional processing, memory and mnemonic strategies. Significant gains were shown in the areas that were targeted. Some studies showed that benefits of the training lasted from six months to a year or more (Seagull & Seagull, 2005). However, most of the trainings were designed for research; the trainings were not part of the daily life of the older adults, which make the strategies less meaningful.

Stern and Munn (2010) did a literature review about the role of cognitive leisure activities in preventing dementia. The data was extracted from randomized controlled trials and experiential studies with adults aged at least 60, with or without a clinical diagnosis of

dementia. In their results, Stern and Munn (2010) showed “a positive association between participating in activities and a reduced risk of developing Alzheimer’s disease and other dementias when interventions were undertaken in middle adulthood” (p. 1). The authors’ results suggest that cognitive leisure activities may have a protective effect; however, not all activities may be equally protective. Some of the most protective leisure activities from all the studies were reading, and writing as a group (Stern & Munn, 2010). These results were highly relevant for the current study because reading and writing are skills commonly used in educational programs.

Furthermore, Valenzuela and Sachdev (2005) completed a literature review on the effect of brain reserve on incident dementia, which is characterized by the diminishment of some cognitive functions. They included 22 cohort studies (more than 29,000 individuals and a median follow-up of seven years) of the effects of education, occupation, premorbid IQ and mental activities (brain reserve) on dementia risk. In their conclusion, Valenzuela and Sachdev (2005) affirmed that complex patterns of mental activity in the early, mid- and late-life stages are associated with a significant reduction in dementia incidence. High brain reserve was associated with an approximate 50 percent reduction in the incidence of dementia. The majority of studies used education (years in school) as a brain-reserve measure. The relative risk for incident dementia decreased for individuals with high education compared to low education, and 10 out of 15 studies demonstrated a significant protective effect. Mentally stimulating leisure activities were “the most robust brain-reserve measure” (p. 447) since all 22 studies found a significant protective effect on incident dementia. These results demonstrate that education and mentally stimulating activities are relevant and can be considered as brain reserve.

Valenzuela et al. (2012) commented that an active cognitive lifestyle may promote a number of reserve-related processes, instead of a singular process. The broader significance of these findings is that they provide new biological support for strategies aimed at reaching the cognitive lifestyle of older individuals for the better promotion of cognitive health and prevention of cognitive decline. Cognitive interventions can be effective when commenced in later life for delaying cognitive decline and lead to detectable increases in cortical thickness (Valenzuela et al., 2012).

The cognitive reserve is difficult to test at the cellular level in living humans; however, these results are in accordance with the Scaffolding Theory of Aging and Cognition and the Brain Reserve Hypothesis, which assume some aspects of life experience, such as education, protects against cognitive decline (Doraiswamy, 2012; Draganski et al., 2006; Meng & D'Arcy, 2012, Valenzuela et al., 2012; Valenzuela & Sachdev, 2005).

Education in Later Life

Hence, education and an active cognitive lifestyle are promising public health measures (Valenzuela et al., 2012). Cognitive reserve and education are amenable to change. As was mentioned earlier, primary prevention is difficult to measure, but I consider it is better to try and fail, than failing to try.

Based on the information presented, I consider that the human brain can reorganize itself and experience functional improvements through education (formal, informal or non-formal). The studies and research presented in this literature offer support for suggesting a positive connection between education and cognitive reserve. Particularly, I believe that educational programs for older adults have to be meaningful and promote changes in habits, in order to generate changes in the brain. We cannot test the results immediately, but these

are actions that can promote cognitive health, and hopefully impact positively seniors' well-being.

Older adults can join learning institutes and take different educational courses to improve their knowledge about different topics (such as health, art, languages, etc.), they can learn with people of their age, and they can possibly maintain cognitive functions in later life by developing cognitive reserve. Therefore, this study will review learning institutes for older adults.

Learning Institutes for Older Adults

In the world there are a range of adult education programs created by and for people age 50 and older (Wolf & Brady, 2010). These programs are educational institutions catering exclusively to the learning needs and interests of older adults (Formosa, 2014). In the United States the majority of them are known as the Lifelong Learning Institutes (LLIs) and in Europe and other countries are known as the University of the Third Age (U3A).

Although they have differences, they have a number of common characteristics:

- 1) They are non-profit organizations or they can be part of a college or university with some level of self-governance.
- 2) The institutes are member-based. People join the learning institute by paying a modest membership fee.
- 3) The curriculum is heavily focused on the liberal arts.
- 4) Teachers and facilitators are members and educate their peers. In the majority of the cases, they are volunteers.
- 5) The student body is better educated and more affluent than the general population (Formosa, 2012; Wolf & Brady, 2010).

Even when the majority of learning institutes for older adults are developed through volunteers and they are functioning well, they have barriers that can be addressed. Brady, Cardale, and Neidy (2013) developed an online survey among 65 directors of LLI in the USA with the aim to explore issues related to learning communities. The authors found that these institutes are in general very helpful for older adults, but they cannot grow because they face different obstacles. One difficulty is that LLIs have limited space and complication with parking because most of them share installations with other institutions. Another obstacle is the shortage of staff. As most of the people are volunteers, it is difficult to engage and maintain the staff members. It is challenging to engage LLI members themselves in the building of community because it takes time and resources. Moreover, sometimes the staff is overworked and it is difficult to pay much attention to the growth of a learning community. Likewise, some older adults who had previously retired have returned to either full or part-time work for financial reasons, thus reducing their availability for attendance.

Furthermore, these institutions cannot grow easily because they are competing with many activities for older adults developed by public schools, community colleges, retirement facilities, museums, local parks, and recreation programs (Brady et al., 2013). Another barrier for growth is related to the personality of some members, who gossip about others and are hypercritical of faculty or classmates, behaviors that negatively affect the learning environment. The last barrier mentioned in the study of Brady et al. (2013) is the resistance from some instructors to change their didactic methods and to incorporate technology in the learning-teaching process. The authors mentioned that dramatic changes in the way these programs deliver education may not occur until a new generation of older adults constitutes a new majority. They suggested that this demographic change will bring

changes in LLI practices and pedagogy, especially in the use of technology as part of the education. I believe that as a society, we do not have to wait until the elderly population are the majority; we have to prepare the path and work in better practices and pedagogical strategies for seniors.

Currently, these institutions are primarily managed by older adults and the teaching style is peer teaching. Formosa (2012) said that “peer teaching is the most effective method in late-life learning” (p. 39). Is it the best? It is the only one that has been proven with older adults. In their study Brady et al. (2003) asked teachers the challenges of teaching one’s peers. Teachers answered that some challenges were the wide range of students’ educational background, learners’ subject matter expertise (sometimes learners know more than teachers), the program structure (they would like to have more sessions), and the physical deficits associated with aging (e.g., participants need to go to the bathroom constantly, the tendency to nod off).

Brady et al. (2003) stated that the most basic challenge for LLI faculty is “determining exactly what is their mission” (p. 864). For some teachers the main purpose was to make older adults feel good, for others it was entertainment, and for some it was to offer classes academically more rigorous. There was a question about if teachers for older adults are educators or entertainers for students who are in school just “because it is Thursday” (Brady et al., 2003, p. 864). So, currently learning institutes for older adults are self-regulated and it is difficult to grow by themselves. As I mentioned in Chapter One, I created a learning institute in México (UNIDE) but the model was not based only on peer teachers. The teachers were paid, and they were from different ages, varying from 28 to 70. Furthermore, the teachers have a specific training regarding older adults, where there were

specific learning strategies for older learners (such as materials with a bigger font, PowerPoints avoiding specific colors that seniors cannot recognize, among others).

Benefits of Learning Institutes for Seniors

In order to review the benefits of learning institutes for older adults, I explored the research that has been done and what outcomes have been reported. I reviewed fifteen empirical studies from different countries: Australia (3), Cuba-México-Chile-Madrid (1), Brazil (1), Canada (1), Hong Kong (1), Poland (2), Sweden (1), the United Kingdom (1), and the United States (4). The inclusion criteria were that participants were older adults and that the article analyzed non-formal education. The programs for older adults will be identified in this research indistinctly as University of Third Age (U3A) because all the studies analyzed were alternative non-formal educational programs specifically designed for older adults.

Around the world, the majority of participants in the U3A programs are white; the average ages are between 60 and 79, and all the programs presented more women than men as participants. The studies that analyzed previous education in their participants reported older adults as well educated (more than 16 years of education) (Hebestreit, 2008; Johnson & Bungum, 2008; Narushima, 2008; Swindell, 2002; Wight et al., 2002; Zielinska-Wieczkowska et al., 2012; Wilinska, 2012).

The most mentioned finding regarding the perception of learning programs was that learning institutes are safe, secure, and nurturing places. In Lamb and Brady's study (2005) a participant expressed, "you don't have to be afraid. You can let your guard down, we are all facing the same thing" (p. 218). Older adults are finding passionate class discussions, interesting learning in the U3A, and also a place for talking about taboo subjects (Lamb &

Brady, 2005). Participants in learning programs consider the courses as something serious. Fok's study (2010) reported that older adults regularly attend classes and spend long hours doing their homework. They consider it as a crucial part of their life. Moreover, Narushima (2008) reported that participants value the educational programs as meaningful because of the pleasure of studying subjects that genuinely interested them. Furthermore, participants value the flexibility to work on their own schedule (Lamb & Brady, 2005; Swindell, 2002) and that they do not have to be graded or worried about credits (Lamb & Brady, 2005; Simone & Cesena, 2010). They are excited with the nontraditional structure and the absence of academic demands and controls.

Regarding stereotypes of aging, something very interesting was found in this literature review. Chambers and Pickard (2001), Fok (2010), Lamb and Brady (2005), and Zielinska-Wieczkowska et al. (2012) commented that the participants attending learning programs are challenging negative images of old age, such as a decrease in mental and physical fitness in older adults. In addition, it seems that prior to attending to these programs, participants experienced this negative stereotype of the elderly stage, too. One participant of Narushima's study (2008) noted "What should I do? Sitting at home with a cat and doing nothing? [sic]" (p. 685), and another from Fok's (2010) findings said that before attending the learning program she was waiting for death, "getting up, eating and sleeping" (p. 303). Now, through these learning programs, older adults are participating in mainstream activities such as computing, photography or art (Chambers & Pickard, 2001). This is highly relevant for this research because it implies that education in older adults can offer more than only knowledge. It offers new enthusiasm for their lives.

Among the reasons to attend learning programs, Narushima (2008) and Carvalho-Loures et al., (2010) reported fear among the elderly about losing physical and cognitive functions and, with those, their autonomy. They think that attending U3A helps them to be active. One participant said “I promised myself not just to stay home and feel sorry for myself” (p. 682). Likewise, Boulton-Lewis et al. (2006) found that most of the respondents were interested in learning new things, and Johnson and Bungum (2008) reported that older adults obtained pleasure and relaxation attending learning activities. Swindell (2002) and Hebestreit (2008) reported that another reason older adults attend learning programs is that these programs are affordable.

Hebestreit (2008) found that 74 percent of the participants did not manifest symptoms of depression. Wight et al. (2002), who found similar results, noted that the lack of an apparent depression effect among the learners suggested that one of the benefits of education may be providing skills that enable one to function at a basic level, even under conditions of emotional distress. Fernandez-Ballesteros et al. (2013) reported that participants improved their emotional balance because they reduced their negative moods. In the Zielinska-Wieczkowska et al. (2012) study, 66.7 percent of the participants felt younger than their calendar age, which is relevant because this parameter is associated with higher parameters in all fields of quality of life. Zielinska-Wieczkowska et al. (2012) mentioned that 85 percent of the participants in their study reported family happiness. Other benefits related to the family are that participants’ roles have changed. Now seniors can choose to be family caretakers or not and the attendance at a learning program has provided validation for who they are.

Regarding cognitive function, only some studies reported that learning programs offer intellectual stimulation, probably because the studies were not focused on this topic. Wight et al. (2002) noted that cognitive function might be influenced in later life, namely, through post educational training and learning experiences. In their results, they reported that, independent of the respondent's formal education, those with post-education training exhibited a higher level of cognitive function than those who obtain no such training. Moreover, those with less educational attainment appear to benefit most from subsequent training in terms of cognitive function in later life (Wight et al., 2002). In the Johnson and Bungum (2008) study, participants reported that they increased their alertness and their intellectual capacity, but the study did not offer more details. In the Lamb and Brady (2005) study, participants felt that they were "more competent" (p. 219).

In the social arena, participants reported that attending the U3A courses has contributed to their social inclusion. Fok's (2010) participants expressed that "they do not want to be out" of society (p. 305). Lamb's and Brady's (2005) study participants commented that in these educational programs older adults feel accepted and not belittled or ignored.

The participants reported that new knowledge acquired in learning programs have facilitated their communication with people around because they have more topics of interest for conversation. They reported more friends among their classmates, and they enjoyed the relationship with peers (Chambers & Pickards, 2001; Fok, 2010; Swindell, 2002). Moreover, these relationships have helped them because they share information about health, community events, and current affairs (Narushima, 2008).

Through the literature reviewed, I found that specific educational programs offer benefits for older adults in diverse domains, and especially for the less educated. Even though the social domain reports benefits, studies that explore the relationship between subjective well-being and social capital (dimensions of community well-being) and learning institutes for older adults were not found. No one study examined both subjective well-being and the social networks and resources of the participants who attend to a learning institute. Therefore, it was necessary to develop more research about how these programs impacted two dimensions of community well-being among older adults.

Furthermore, as researchers, we have to reflect about the implications of the increasingly frequent diagnosis of dementia type Alzheimer's. Everybody needs to know that something that remains constant is that education (years of education, and education in mild and later life) and cognitive complex activities decrease the risk of cognitive decline and Alzheimer's disease. So, education for older adults can act as a preventive measure.

Based on the literature reviewed, it was necessary to observe if learning institutions for older adults and specifically a course for promoting cognitive health can impact two dimensions of community well-being of the senior participants. Even when these types of institutions are good, they are not available to all the population, and also it is difficult to maintain them with the quality required. In my opinion, these difficulties exist because education for older adults is not considered as crucial. There are no policies or enough interest in offering learning programs to seniors, probably because as society, we do not understand the positive impact that these programs can have on the well-being of individuals, communities, and ultimately societies.

Educational institutions, focused on the learning needs of older adults, are successful programs. As aging societies, we do not need more years of life, but for the years that we have, we need to be autonomous and feel as healthy as possible. If, as researchers, we can add more evidence to prove the positive effects that these programs have in older adults, it is more likely that government policies will include them in their national health care plans, especially when the world is aging.

CHAPTER THREE

METHODOLOGY

The purpose of this qualitative case study is to explore participants' experiences and perceptions of two components of community well-being (subjective well-being and social capital) as a result of their participation in a learning institute for older adults and in a particular holistic course aimed at the overall promotion of cognitive health. In this instance, the case is the learning institute itself as the context for the course and the participants I wanted to study, though the focus is more on the learners in the course. Also, I taught a course aimed at promoting cognitive health as a primary prevention strategy. The course was informed by the action research methodology, and allowed me, as teacher-researcher, to observe the learning process directly. Teaching at the institute gave me greater access to program administrators and other teachers and learners who are involved with the institute as a whole that provides context for the course itself.

The research questions that guided this study are:

- a) What is the overall context of this learning institute and its aims in providing learning opportunities for older adults in a particular residential community?
- b) How do participants perceive that their involvement in the institute affects their subjective well-being, social networks and their participation in different groups inside and outside of the institute?
- c) How do participating senior learners describe significant experiences in specific classes related to cognitive health and well-being?

This study was born of my own curiosity about schools and institutes for older adults in the world and their impact on their students. Developing this qualitative case study was a response to the lack of studies about community well-being and learning institutes for seniors. This chapter will begin with a brief overview of qualitative research, followed by the definition, assumptions, and limitations of a case study and an action research approach. Next, there is a description of my background as the researcher. Following that is a description of the participant selection procedure, the data collection, and the analysis methods. It concludes with a discussion regarding trustworthiness and verification of the findings and a brief summary.

Qualitative Research Methodology

In order to generate new knowledge, understand reality, or probe existent theories, educational researchers should develop a clear purpose to their study and research questions. It is up to the researcher to choose which methodology will be the best for answering those questions. There are two major approaches to research that can be used: quantitative methodology and qualitative methodology. Mixed methods is a third approach that uses both methodologies. Quantitative methodology explains phenomena according to numerical data, answers close-ended questions, and has the intention to predict and/or generalize the results (Creswell, 2009). Qualitative methodology pays attention to the words, answers open-ended questions, and has the goal to understand the meaning socially constructed by individuals in interaction with their world. In a qualitative approach, researchers are interested in how people perceive the world, and what meaning they give to their lives, instead of cause-and-effect answers or controlled experiments (Merriam, 2009). Qualitative research offers the possibility to understand

how seniors construct knowledge and make meaning of their experience through educational programs.

Qualitative research is defined by Yilmaz (2013) as an “interpretive and naturalistic approach to the study of people, cases, phenomena, social situations, and processes in their natural settings in order to reveal in descriptive terms the meaning that people attach to their experiences of the world” (p. 312). An interpretive qualitative approach refers to interpretations that are at a particular point in time and in a particular context (Merriam, 2009). It analyzes how individuals experience and interact with their social world and the meaning it has for them. This particular study was guided by an interpretive qualitative approach inasmuch as the case study was developed at a particular educational institute and with a group of senior participants in a specific class (informed by the action research methodology). This study examines the interpretations of the participants about two dimensions of community well-being: subjective well-being (happiness and life satisfaction) and social capital, and about their experience in a course aimed to promote cognitive health.

Qualitative research has four basic characteristics (Flick, 2014; Merriam, 2009): 1) the focus is on the process and on the socially constructed nature of reality; 2) understanding and meaning are important because qualitative researchers seek answers about how the experience is created and given meaning; 3) the researcher is the primary instrument and the relationship between the researcher and what is studied is taken into consideration; and, 4) the process is inductive and the product is richly described, so the researcher presents an intimate view of the subjects’ perspectives. Although these characteristics are described separately, there is often an overlap (Merriam, 2009).

Researchers describe in detail the context of the study and include quotes from the participants as evidence.

Gay and Airasian (as cited in Yilmaz 2013) define qualitative research as the collection of extensive data in order to gain insights not possible using other types of research. To study if the participation of seniors in an educational program affected their perception of community well-being, as the researcher, I got closer to the participants' interpretations. For that reason, this study included a course informed by the action research methodology. I taught a holistic course aimed to promote cognitive health. Through observations and closeness with the learners, as the teacher-researcher, I better understood the meaning of their experience. In addition, as the researcher, I was looking for how these senior learners interpreted their experience in the learning institute and how they related their participation to two dimensions of community well-being: happiness and life satisfaction (subjective well-being), and social capital. Hence, a qualitative approach was the most appropriate methodology for this study.

The primary data collection methods for a qualitative approach are interviews, focus groups, observations, artifacts, and documents. The data is analyzed through inductive and comparative processes. In general, the analysis of qualitative information includes coding and grouping the information based on the purpose of the study. The findings have to be comprehensive, holistic, and expansive (Merriam, 2009; Ryan, Coughlan, & Croning, 2007; Yilmaz, 2013). Furthermore, for a qualitative approach, the interaction between researcher and participants is valued. Usually, researchers explore the narrative of the people and include their own interpretation in conjunction with the

participant's voice (Yilmaz, 2013). Researchers should make their orientation, predispositions, and biases explicit in order to avoid misinterpretations.

There are recognized strategies in qualitative research that have been developed with specific characteristics and clear purposes. For this study, I describe the assumptions that follow two of these strategies: case study and action research. These are presented in the next two sections.

Case Study Research

Case study is a strategy of inquiry in which the researcher explores in-depth a program, event, activity, process, or one or more individuals. It is holistic and context sensitive. The purpose of a case study is to gather comprehensive, systematic, and in-depth information about a case of interest. The term *case study* can refer to either the process of analysis or the product of analysis because the analysis process results in a product: a case study (Patton, 2015). The case could be a single person, a program, group, policy, an institution, or even a state or country. The most defining characteristic of a case study research is that it is a system with clear boundaries (Merriam, 2009). This study provides background on a particular learning institute for seniors, and also analyzes a group of senior learners taking a course in an institute dedicated to offer educational programs exclusively for elders.

A case study focuses on a naturally bounded system, and a system is a set of interrelated elements that forms an organized whole. Almost all systems are made of components or parts, and it is important to understand how the parts operate together in order to understand the system. Even individuals can be analyzed based on their different components, such as cognitive, emotional, and physiological. Researchers are interested

in how the parts come together and present holistic descriptions of the system analyzed (Burke & Christensen, 2014). This study examines the learners' experience in a learning institute. The data was collected through the experience of the participants in a two-parts course for promoting cognitive health. The same participants started the course, and those who finished the program were considered for the study. All of them were attending classes in a specific setting: a learning institute for older adults part of a retirement community in Central Pennsylvania; focused exclusively on adults over 55 years old. The institute is the context where the course was taught and this study observed its organizational structure, its history, and its operational system.

Researchers choose a case study because they want to explore a unit of analysis, not a topic of investigation. It is based on the uniqueness of the entity. The resulting data can offer understanding about infrequent, non-obvious or unexplored topics. Since such data are atypical, it is important to delimit the boundaries of the unit of analysis. The researcher can establish the upper and lower limit of the experience, but they can also select bounded systems. Merriam (2009) stated that bounded systems are those in which the boundaries are observed by obvious common sense such as a school, an innovative program or a person (Merriam, 2009). I particularly chose this particular learning institute for seniors because it has been operating for ten years, which demonstrates continuity. Moreover, it has a structure similar to most of the educational programs for older adults in the United States. Learning institutes for seniors offer courses taught by volunteers, who can be retired professors or experts. Participants pay a community membership fee and they have access to five courses per term. There are two terms each year, fall and spring, similar to a college schedule. Moreover, it is focused on serving all adults age 55

and over and it is open for the community, not just retirement community residents. Thus, in this study, I explored the experiences of the learner participants in the course for promoting cognitive health which was informed by the action research methodology, and the experience of some contextual participants of the learning institute.

Case study does not claim any particular method for data collection. Multiple sources of information can be used in a case study: questionnaires, interviews, photographs, archival documents, among other. The relevant part of the analysis is to cover the interaction of significant factors characteristic of the entity (Merriam, 2009). This type of research is characterized as being particularistic, descriptive, and heuristic. Particularistic refers to the specificity of focus on a particular person, situation, event, program or phenomenon; the case itself is important. Descriptive means that the end product is a complete description of the entity studied, including as many variables as possible and portraying their interaction. Heuristic means that case studies illuminate previously unknown relationships and variables and display new understandings of the system under study (Merriam, 2009). For analyzing the context, this study provides the background of the institute, its purpose, its organizational structure, and its operational logistic. It also presents the perspective of some key informants such a teacher, the director, and the coordinator of the learning institute. As a teacher-researcher, I illuminate as much as possible the relationships and variables observed in this particular group of senior learners regarding subjective well-being (happiness and life satisfaction) and social capital.

Action Research

As part of this case study, I taught a class for preventing cognitive decline informed to a certain extent by an action research methodology. Action research is a form of inductive practical research that focuses on effecting change while the research is going on. It is a strategic approach to knowledge production, integrating different methods to create new knowledge and solve problems (Levin & Martin, 2007). It has two goals: to create social developmental processes aiming to solve local problems, and to contribute to the body of knowledge by discussing results. It is a process where researchers identify a problem and do something to resolve it (Merriam & Tisdell, 2016). However, as a researcher, my primary goal was not really to solve a problem but to have a close relationship with the group, and to teach a class on promotion of cognitive health. This was a primary prevention strategy, means that I applied an intervention before the problem or issue is present (Galindo, Samala & Ciocon, 2011). It was an intervention that helped seniors overall, but it is impossible to know whether or not the intervention actually prevents cognitive decline.

That said, dealing with the prevention of cognitive decline is an important side bar to this study, since the problem of cognitive decline has a high impact in older adults' families and the society. It is also the first symptom of dementia type Alzheimer's, which is a brain disorder that affects communication and performance of daily activities. The decline may become sufficiently serious that older people are not able to live independently or manage their lives (Park & Bischof, 2013). Alzheimer's disease starts with cognitive decline, which is characterized by diminution in one or more cognitive domains (e.g., concentration, memory, orientation) (Apostolo et al, 2014). It is important

to develop protective factors or prevention strategies which may result in benefits through prolonged independent quality of life. For that reason, the course was designed to promote cognitive health.

There are many kinds of action research including participatory research, collaborative inquiry, emancipatory research, action learning, and contextual action research. Action research is based on the following principles: 1) It focuses on a problematic situation in practice; 2) it is oriented toward some action; 3) it engages participants to improve practice; 4) the lead researcher is often an insider of the community; and 5) in an action research project, researcher and participants collect multiple forms of data (Merriam & Tisdell, 2016). Educators who want to develop action research projects have to be in constant involvement with the target community through listening and dialoguing. Then they should ensure the viability of the project (Liu et al., 2006). Moreover, adult educators have to be risk-takers who can envision possibilities of solving problems.

Action research is aimed at the improvement of practice in general, or in solving a problem. It is influenced by John Dewey's emphasis on reflexive thinking (Kuhne & Quigley, 1997). Action research is oriented to some actions that organizational or community members have taken, or are taking, or wish to take to address a particular problem or situation (Herr & Anderson, 2015). This course was informed by the action research methodology because, to some extent, it was focused on solving a problem, and encouraged participants to apply the knowledge learned in their daily life.

An action research includes a spiral cycle of four phases (Merriam & Tisdell, 2016). The first phase is when the researcher (s) plan what they are going to do; the

second is the action phase; the third is the observation of what happened as a result of the action; and the fourth phase is the reflection phase, which becomes the next planning phase. For this action research project I went and explained to the director of the learning institute my dissertation project and stated the possible benefits of the course for the senior participants. The course was planned for eight two-hour sessions, but, the institute only offers 1 to 4 session courses. So the course was offered in two parts of four sessions each: Brain Fitness and Brain Power. I taught this two-part course during Spring, 2015 (description of the courses is in Appendix A). I submitted my proposal for review to the Human Research Protection Office at Penn State in order to obtain approval before the action research started. The phases of the project are discussed in the following section.

Planning Phase

In the first step, adult educators see a problem, and envision possible solutions. They look at solutions that others have tried and consider how such solutions would work in their own practice setting. Also, they review others' research on similar problems. Once the problem is clear and some ideas on how to intervene have been developed, it is convenient to involve a sympathetic but informed colleague and dialogue about doability. For the course informed by the action research methodology, the problem to address was to promote cognitive health, to develop cognitive reserve, and hopefully to delay cognitive decline.

Regarding health, primary prevention refers to preventing the condition from occurring. (Galindo et al., 2011). To prevent cognitive decline is difficult because in the field of neurodegenerative diseases, when the symptoms are clearly present, it is too late.

The brain is already damaged. The most viable option is primary prevention, to promote behaviors that minimize the risk of having cognitive decline. However, even when a program can report benefits in the population, the link with the main disease cannot be observed until several years later. Hence, there are no biomarkers directly related to cognitive decline, and the true impact of prevention may not be appreciated (Galindo et al., 2011; Savica & Peterson, 2011). This is not a problem for this study because the course was planned for offering an intervention for promoting cognitive health without expecting measurable results.

In the planning phase of a project, researchers structure the intervention in order to have a realistic and organized project (Herr & Anderson, 2015). As a researcher, I looked for the risks factors associated with Dementia type Alzheimer and cognitive decline, and I reviewed what programs have been developed in order to prevent cognitive decline (Seagull & Seagull, 2005; Stern & Munn, 2010; Valenzuela et al., 2012). Fritsch et al., (as cited in Stern & Munn, 2010) identified three activity factors developed in middle age which were significantly associated with decreased odds of Alzheimer's disease: novelty seeking, exchanging ideas, and social activity. During the course, I promoted these activities with the hope to decrease or delay cognitive decline among the participants. Furthermore, I incorporated more activities as a way to promote cognitive health.

The structure of the course was holistic, in the sense that I was drawing on multiple ways that people come to know and learn, including the cognitive, the emotional, the spiritual, and the physical. As discussed in Chapter Two, Yu et al., (2009) in their review of the effects of cognitive training in individuals with early-stage of

Alzheimer dementia (mild cognitive impairment) found that when courses are focused on specific cognitive functions, such as memory or visuospatial ability, participants found them irrelevant because the courses are not related to their lives, and the positive effects do not last for a long. Moreover, the course was designed holistically because cognitive decline has a multifactorial etiology, resulting from interactions between both genetic and environmental factors (e.g. gene APOE, diabetes, vascular insults, neuronal damage, and high cholesterol/triglycerides), so the interventions have to be conducted multidimensionally, combining interventions for multiple risk factors (Srisuwan, 2013). Neuroplasticity principles and the risk factors for cognitive decline as the theoretical framework that sustain the content of the course were presented in Chapter Two.

I informed the participants that I was going to analyze the relationship between their participation in the institute and in this particular course, and their perception of how it affected them overall and their relationships with others (community well-being). They could participate if they wanted, but they did not have to sign the informed consent until they completed the course, and consented to a final interview.

Action Phase

In the action phase, the researcher with participants implement the intervention. To successfully implement the project, the researcher should follow the initial plan (that is typically developed in consultation with others), collect the data, and continue in dialogue with participants and colleagues (Merriam & Tisdell, 2016). As mentioned above, the course was not completely an action research inquiry. Participants did not participate in the planning of the two-part course because it was related to specialized topics; brain reserve and cognitive health. Following a multidimensional and holistic

structure, I planned the course with six basic components: new information, meditation, cognitive stimulation through senses, emotions, social impact, and physical activity.

Every session had exercises from each component. An example of a session is presented in Appendix B. Moreover, I taught the course promoting active learning and interaction among the senior learners.

Active learning and interaction. Throughout the course, I encouraged the senior learners to incorporate their prior knowledge and experiences into the class. The intention was to enhance their ability to see themselves as active and competent learners (Merriam, Caffarella & Baumgartner, 2007). I asked them to reflect on the concepts reviewed and their relevance in their daily life. Furthermore, I promoted interaction among the participants through games, peer discussions, and in-class activities. Following is a brief explanation of each component.

New information. In each session, I provided learners with new information; participants learned the basics about neuroplasticity and how to promote it in daily life (Buettner & Fitzsimmons, 2009). In addition, senior learners identified activities and strategies that minimize the risk of cognitive decline, such as mentally challenging activities, prevention of head injuries, strategies to prevent depression, among others (Srisuwan, 2013).

Meditation and spirituality. Another section of the course was meditation. It refers to a group of mental training practices designed to familiarize the practitioner with certain types of mental processes such as attention and concentration (Brefczynski-Lewis et al., 2007). Prakash et al., (2012) developed a study with older adults in order to assess meditation as a preventive measure of cognitive decline. They evaluated the effects of

meditation on various domains of attention: the attention span, attention set shifting, ability to inhibit distracters, information processing speed, and visuo-spatial attention. In all these domains, the long-term meditators performed significantly better than the non-meditating control group individuals (Prakash et al., 2012). During the course, I asked the students to practice different meditation techniques (one per session). I included mindfulness meditation for improving attention and transcendental meditation, which is focused on mantras (Arias, Steinberg, Banga, & Trestman, 2006). Furthermore, at the end of each session, I asked participants to hold their hands and express why they were thankful for. I called this subsection spirituality.

Cognitive stimulation. It refers to strategies to increase brain reserve later in life (Savica & Petersen, 2011). Participants used their senses and did exercises in diverse domains such as perception, reasoning, memory, solving problems, or communication (Cusack et al., 2003; Fitzsimmons, 2008; Katz & Rubin, 1999; Le Poncin-Lafitte & Levine, 1990). The biological mechanism underlying the effect of cognitive training is unknown. However, some experimental evidence indicates that in animals there is actually an increase in brain volume after prolonged mental activity (Savica & Petersen, 2011).

Emotions. Another section of the course was related to practice positive emotions. The brain handles different emotions with the help of different components, and emotions have a high relation with how the brain functions (Merriam, Caffarella & Baumgartner, 2007). If we promote positive emotions, it is highly probable that older adults will learn in a more meaningful way than without the emotional component. Moreover, the impairments of cognitive function are accompanied, and occasionally

preceded, by deterioration in emotional control, social behavior or motivation (Cusack, Thompson & Rogers, 2003; James & Hope, 2013). Based on neuroplasticity and the studies reviewed, if the brain has the capacity to change in response to learning process, we can promote learning about positive emotions. Older adults are suffering so many changes in their life that it is logical that their self-esteem and their confidence decrease due to the circumstances (physical decline, segregation, losses, etc.). For that reason, it is important to encourage positive emotions in later life. In the course, I promoted positive emotions through activities and thoughts. For example, in one activity senior learners had to write at least ten successes from their lives (past or present) and share them with their classmates. The activity itself promotes positive emotions.

Physical Exercise. It is also important because physical activity has been associated with a reduced risk of vascular diseases and cognitive disorders. Although no amount of physical activity can stop the biological aging process, there is evidence that regular exercise can minimize the physiological effects by limiting the development and progression of chronic disease and disabling conditions (Chodzko-Zajko et al., 2009, Reijneveld, Wethoff, & Hopman-Rock, 2003). Savica and Petersen (2011) reported that increased physical activity is associated with higher cognitive scores and can protect against cognitive decline. Hence, every class I presented a short video with simple physical exercises that seniors can do without an instructor.

Social Impact. There was a section dedicated to impact positively their community. I was called 'time for legacy'. During this time, participants reflected about how they could change something in the world and leave a better place for the next generations. It was related to actions that could impact others, irrespective of the

magnitude of the action. I invited older adults to think and talk about how they could transcend and improve the world. I was not expecting that they would develop monuments or march against the government. The proposal was to do something in their daily life which could impact others positively. They had to think about how, since their positionality, they can contribute for a betterment. As an instructor, I tried to share the power and to be a fellow-learner. As educators, when we share the power with our students, they think that they are able to do something (not only to receive). When learners think that they are able, then they are (Rogers & Allender, 1983).

During all the intervention, I promoted a positive image of older adults and offered a space for expressing and developing their personal potential. Furthermore, I encouraged them to discuss the content of the course. Together we evaluated if the structure was adequate or if it needed change.

Observation and Reflection Phase

During the reflection phase, the researcher must evaluate the outcomes of the intervention (Kuhne & Quigley, 1997). However, this course was a primary prevention strategy, so as a researcher I did not expect short-term outcomes in the cognitive domain. During the final reflection state, researchers must reflect about the project. They should ask themselves if another cycle of action research is needed. This phase was not considered for the course because it was not completely an action research form of inquiry. This study analyzed how the participation in the course for promoting cognitive health affected senior learners' life overall.

Background of the Researcher

In a qualitative study, researchers are a relevant part of the study because through their interpretation, the study will be presented. It is important to acknowledge the researcher's experience, knowledge, skills, interests, and biases in order to make the study more trustworthy. So, I am an international student from México. My native language is Spanish. I consider myself middle class. I studied Psychology and my masters degree is in Marriage and Family Therapy. I had my private practice for 15 years in México. I have been a teacher of undergraduate and graduate students since 1995. Furthermore, I developed different courses for adults and continuing education. The contact with different types of people and with so many kinds of problems made me a person with a high social sense. I am always fighting for equality and well-being within people. In 2010, the government of a municipality in México invited me to create a learning institute exclusively for older adults: UNIDE (described briefly in Chapter One). I developed the program, and I was the principal for almost two years, until I came to the United States to pursue doctoral study. I observed many positive changes among the participants and the teachers, and, in general, I observed a sense of community that I had not observed before in another educational setting. I found myself so passionate about the experience that I decided to study for my doctorate in adult education with an emphasis on older adults. I have a profound love for my older relatives and friends, and I think that this love and the experience lived in this learning institute changed my life. Now, I like to teach seniors. I am aware of this passion and I took it in consideration for my results in order to offer reliable information. Moreover, it relied on the participants' voices more than my interpretation because I am not a senior.

Participant Selection

Qualitative research looks to understand a problem, a situation, or a phenomenon in-depth. For that reason, the sample is purposeful and usually small, based on the research questions of the study. The researcher selects information-rich cases or case groups according to concrete criteria for study in depth. Sampling proceeds according to the relevance of cases, rather than their representativeness (Flick, 2014; Merriam, 2009; Patton, 2015). For this study, I had a typical sample, which is the one that reflects an average person, situation, or group (Merriam & Tisdell, 2016). The learning institute was not very different or intensely unusual from other learning institutions. It is focused exclusively to provide non-formal learning opportunities for adults age 55 and over, like most of these institutes (Wolf & Brady, 2010). It is based on volunteers and use a peer-teaching system. Seniors pay an inexpensive fee for the courses and the courses do not offer credits. In order to understand the context of the study, I interviewed some contextual participants such as the director of the learning institute, one professor that has taught more than two courses, the coordinator of the institute, and one senior learner who was not part of my course. Moreover, the main participants of this case study were those senior learners who attended to the two-part course for promoting cognitive health in this specific learning institution for older adults (Patton, 2015).

It is important to clarify that the main purpose of the study is to explore the participants' experiences and perceptions about the learning institute and subjective well-being and social capital as dimensions of community well-being. For that reason, I chose a different topic for the course. Given that the course was not focused on community well-being, I could observe how the seniors' participation in the learning institute and in

this particular course affected their perception of the two dimensions of community well-being (subjective well-being and social capital). The intervention had two courses of four sessions each with a one-break week between them. The first course was called Brain Fitness and the second was called Brain Power. Participants could attend to one or both courses. However, for the purpose of this research, only those students who attended both courses could participate in the research. The maximum capacity of attendance was 15 older adults per course.

Participants for the course were those registered in the learning institute who had the willingness to participate in the study, were 60 years or older, participated in the eight sessions of the holistic course for promoting cognitive health, were functional (not diagnosed with dementia), and were independent (i.e., they could come to class by themselves). Some of the students participated only in one group, and, therefore, they could not be part of the study. After both courses finished, I explained the purpose of the research, so participants could decide to participate or not in the interviews and the study.

Data Collection and Methods

For the data collection, I used different methods for producing data. Using different techniques in the research increases scope, depth, and consistence, and offers more solid findings (Flick, 2014). The primary means of data collection in all qualitative research projects are interviews, observations (field notes of the observations), and the analysis of documents and artifacts. For this study, I used semi-structured interviews, observation, and a critical questionnaire.

Interviews

The interview is a technique to obtain data in a verbal manner through open-ended questions. It allows interaction between the interviewee and interviewer (Creswell, 2009; Kuhne & Quigley, 1997). In this research, I used the semi-structured interview with the senior learners and the contextual participants. A semi-structured interview involves asking in a more flexible way. It allows the interviewer to make questions more precise with opinions, thoughts, and other questions. It has specific questions, but there is the possibility to include questions that were not considered before (Flick, 2014).

For the case context, I interviewed key informants such as the director, the coordinator and one professor who has taught more than one semester (specific questions appear in Appendix E). For the participants, I interviewed the senior learners who participated in both parts of the course (specific questions appear in Appendix F). For all the participants, I developed an interview guide with specific questions about the dimensions of community well-being that I was analyzing (happiness and life satisfaction, and social capital). For the senior learners, I also included questions related to the content of the course. The interviews were at the end of the two-part course to those participants who met the criteria. Some interviews were developed in the institute, other in their homes, and/or in a restaurant inside the retirement community. I tried to obtain thick and rich information from the interviews (Creswell, 2009; Kuhne & Quigley, 1997). All of them were recorded. The materials were encrypted and managed only by the researcher in order to maintain confidentiality and respect the participants' privacy.

Observations, Field Notes, and Documents

Observation is the most fundamental practice of all sciences. It utilizes all the senses. Seeing, hearing, feeling, and smelling are integrated during observations (Flick, 2014). Naturalistic observations take place in the field (Patton, 2015). Through direct observations the researcher is better able to understand and capture the context within which people interact. As a teacher of a course, I observed the physical environment of this institute, maintained direct communication with the director and the coordinator, and I observed the routine of the learning institute. Furthermore, I participated as a student in a course.

As a researcher and teacher of the course, I was with the learners for the complete period as an insider-observer. I did not take notes during the course because the director of the institute wanted to protect the confidentiality of the participants as much as possible. After each session, however, I wrote my interpretation and my feelings about what was happening during the course in the form of an audit trail. My notes focused on how learners were using the exercises at home and also about their thoughts and comments.

Documents are artifacts or objects that occur in particular formats such as notes, drafts, drawings, reports, diaries, and so on (Flick, 2014). For the context of the case, I analyzed the documents that are present in the setting already such as the mission statement, the learning institute website, and the course catalog. For the specific unit of analysis, the course participants, I included a critical incident questionnaire (CIQ) at the end of each part of my course. CIQ is a brief description of vivid happenings that for some reason people remember as being significant (Brookfield, 1995). It is a quick and

revealing way to discover the effects that the course was having on the senior learners. For the first part of the course, I used a single page form with open questions about the course (Appendix C). For the second part, the critical questionnaire was more specific (Appendix D). It included Likert-type questions about the sections and open questions about the course. The CIQ helps the teacher-researcher to observe participants' perceptions.

Data Analysis

Data analysis is the process of making sense out of the data, and involves consolidating, reducing and interpreting concrete bits of data and abstract concepts in a continuous process. The data analysis is not in one moment; it is a process that goes back and forth between the data, the interpretation, and the theories (Merriam, 2009). In a qualitative methodology approach the researcher does not know “what will be discovered, what or whom to concentrate on, or what the final analysis will be like” (p. 171, Merriam, 2009). Data analysis involves examining, categorizing, tabulating, testing, or otherwise recombining evidence, to draw dependable conclusions (Yin, 2014). It is the interpretation and classification of all material collected.

Data analysis should start as soon as the researcher is collecting data, if not the data can be unfocused, repetitious and overwhelming based on the amount of material that needs to be processed (Merriam, 2009). It is important to review the data in the light of the study research questions and to observe what main units emerge in the data and how they relate to one another. For this particular case study was especially important to be focused on the dimensions of community well-being, because as a researcher, I could be trapped with the course content (promoting cognitive health), which is not the main

purpose. Being the teacher, and teaching an interesting topic could put at risk the results of the study, by focusing on the incorrect information. For that reason, for my journal, and my field notes, I forced myself to observe the aspects related to the dimensions of community well-being; subjective well-being (life satisfaction and happiness) and social capital (trust, sociability, networks, and so on). Moreover, in my personal journal, I put the interesting or surprising information that was not related to the topic of the course and my comments and interpretations based on critical thinking (Merriam, 2009).

For my data analysis, I considered that the data was not ‘the true’ or ‘the reality.’ Especially the information obtained from the interviews. Instead, I was open to understand that the results were a combination between the participants’ interpretation of their lives and my interpretation of the process analyzed. Together, we portrayed an interpretive piece of the knowledge for the world (Flick, 2014). The data analysis was an ongoing process which occurred parallel to the collection process.

I created categories and codes based on the information collected. A coding system is defined as “naming segments of data with a label that simultaneously categorizes, summarizes, and accounts for each piece of data” (Flick, 2014). Before the final analysis of the data, I organized all the data sources. This was especially important because as case study research, there was a large amount of information from the interviews transcripts, field notes, CIQs, and the relevant documents from the learning institute and the course. The data was organized in a manner that can be easily retrieved. For that reason, I used a specialized software program for qualitative data analysis called Dedoose. It allows researchers to analyze different kind of qualitative data and makes the mechanical process much easier.

While Dedoose was the program used to code and analyze the interview data, there were additional forms of data besides the interview data, such as the Critical Incident Questionnaires (CIQs), the institute catalog, and website. Using the codes from the interview data, I read the printed documents and marked different codes with different colors to compare with the codes from the interview data. The final analysis resulted in four sets of categories of findings discussed in Chapter Four.

For a trustworthy analysis, I examined the relevant data from the interviews, the field notes, and the CIQs. I transcribed all the interviews, and then uploaded the transcripts into the Dedoose qualitative data analysis program. While I was reading each one, I selected the information that referred to the same topic and I created code names for each. I also reviewed the documents and incorporated the information into the codes. The codes were grouped in comprehensive categories, in order to manage the intense volume of information obtained (Merriam & Tisdell, 2016). Furthermore, I assigned categories which were responsive to the purpose of the research, exhaustive, mutually exclusive, and sensitizing (sense of their nature and capturing the meaning of the phenomenon). Once that all the relevant information was coded and categorized, I interpreted the logic of the data and put it into context. At the end, I presented the results, the analysis, and the emergent themes derived from the study. Moreover, I compared the data obtained with the theory (s) reviewed for this study.

Verification

The validation of findings occurs through credibility, dependability, and confirmability. These strategies confirm that the process of the study is consistent over time and across different researchers (Creswell, 2009; Patton, 2015; Yilmaz, 2013).

Credibility makes reference to consistency in systematically collecting, documenting, analyzing, and reporting the data. Researchers should check the transcripts, define the codes, and cross-check the codes in order to have credibility in their research process (Merriam & Tisdell, 2016). Further, to increase credibility I cross-checked the final transcripts with the original recordings.

Dependability refers to the transparency in the process that makes the data accurate and the analysis trustworthy. Some frequently used strategies to enhance dependability are: triangulation, member checking, and the use of rich and thick description as direct quotations from the interviews and documents.

Triangulation consists in analyzing and comparing different data sources of information and using it to build a coherent body of findings. Using triangulation, researchers seek approaches in different levels; for example, it is different information that a researcher can obtain from observation than from interviews. In order to have a trustable triangulation, it is important to try methods that are clearly distinct in their focus and in the data they provide (Flick, 2014). As mentioned above, for this case study, I used contextual participants' interviews, the documents part of the institute (e.g. mission, website), the participants' CIQs and interviews, and my field observations; hence, I made use of data triangulation.

Confirmability is obtained through the examination of the data. For this study, I used thick and rich data as part of my results, and included quotes from participants, so the information is credible and confirmable (Creswell, 2009; Yilmaz, 2013). Moreover, my advisor reviewed the data, the categories, and the findings of the study. This method

of confirmability is called investigator triangulation (Creswell, 2009). Lastly, I compared the results obtained with the literature existent about the topics.

Summary

The goal of this chapter was to specify the direction and the methodology of this case study about the participation of older adults in a learning institute and a course for promoting cognitive health, and their perceptions of community well-being (ascertained through subjective well-being and social capital). The research questions, the rationale, as well as the justification for a case study design with a course informed by the action research form of inquiry were outlined. Furthermore, the selection criteria, the data collection and the analysis method were presented, followed by a discussion of the verification strategies used for credibility and trustworthiness of the study.

CHAPTER FOUR

FINDINGS

The purpose of the study was to explore participants' experiences and perceptions of the development of community well-being as a result of their participation in a learning institute for older adults, and in a particular holistic course aimed at the overall promotion of cognitive health. The research questions that guided this study are:

- a. What is the overall context of this learning institute and its aims in providing learning opportunities for older adults in a particular community?
- b. How do participants perceive that their involvement in the institute affects their well-being, social networks, and their participation in different groups inside and outside of the institute?
- c. How do participating senior learners describe significant experiences in specific classes related to cognitive health and well-being?

This investigation is a case study of a senior learning institute, which is a part of a retirement community. A case study design was chosen in order to understand how a learning institute for seniors (60+) relates to the community well-being of its participants. As discussed in Chapter Three, for the purposes of this study, I developed and taught a holistic course for promoting cognitive health. My intention was to be fully immersed in the institute and to be an inside observer. At the same time, the objective of the course I taught was to offer strategies that seniors can use to promote brain reserve, and hopefully, to delay or prevent cognitive decline.

My course was initially developed to be taught in eight consecutive sessions. However, based on previous experiences, the director suggested to present them as two courses of four sessions each. I named them *Brain Fitness* and *Brain Power*. While I would have preferred that the two courses continue on the same day and time, this was not possible within the confines of the institute's schedule and guidelines. Hence, the first course was on Monday and the second on Friday. Some participants told me that they could not take both courses because they did not know that the courses were related or because they had previous commitments one day or the other. During this study, when I am talking about my course, I am making reference to all eight sessions or both courses.

This chapter is broken down into two primary parts. The first major section presents the participants of the study. The second part presents the findings of the study beginning with a detailed discussion of the context of the learning institute.

Part I: Participants

There were a total of 11 participants in the study: the “senior learner participants” and “the contextual participants.” The senior learner participants in the study were those who took both parts of the course. In the end, there were six senior learner participants that joined both courses and agreed to have an interview. They live in the retirement community that is associated with the institute. Through them, I captured the experience of the learners. Moreover, through these interviews, I assessed the impact of the course that I taught. I also interviewed people that I refer to as “the contextual participants” who could give me more understanding about the context of the institute itself, such as some staff members, one of the founders of the institute (she is also a student), one teacher, and one student that was not in my course. It is important to mention that in my results I took

in consideration the information from the six learners that participated in my course, and the two who did not, having a total of eight students as participants of the institute and six of my course. While the contextual participants provided some grounding and background in relation to the case study of the institute itself, the participants in the two courses that I taught provided data related to the role of the courses in their development of further well-being. In what follows, I first present information about the contextual participants, and then the senior participants in the courses. All names are pseudonyms to protect the identity of the participants.

Contextual Participants

As mentioned above, I interviewed five people who could provide some background context to the institute itself, including some staff members, one of the founders who is also a student, a teacher, and a student who was not a participant in my class just to find out about their general experience in the institute. Table 1 shows a summary of demographic variables of the contextual participants and the profiles of these participants appear below.

Table 1.
Contextual Participants' Demographic Variables

Name (pseudonym)	Gender	Race	Context	Educational Level	Years in the Institute
Alexis	Female	White	Student	Master's degree	10
Donella	Female	White	Founder and student	Doctor of Philosophy	10
Sarah	Female	White	Director	Master's degree	10
Marie	Female	White	Coordinator	High school	8
Walter	Male	White	Teacher	Doctor of Philosophy	5

Alexis. Alexis is a student at the institute, but she did not participate in any session of my course. She was volunteering as a host in the course that Walter, one of the instructors, was teaching, and that I attended. She stated that she “[was married to a very intelligent and capable man who served the world well.” Alexis has four grown sons, “one is local and three live in other states.” She and her relatives are concentrated in Pennsylvania, even though she lived for 15 years in another state.

Donella. Donella is a founder of the learning institute, and since then she is a student, and a board adviser. She was the first woman faculty member in a private university. Moreover, she became the Academic Dean Emeritus of the same private college. She participated the first part of my course, but she could not continue because the second part was on a different day (Monday instead of Friday). As a metaphor of the institute, Donella mentioned that she and the other founders together were a caterpillar and the institute is a beautiful butterfly.

Sarah. Sarah is the director of the institute, and has been involved with it since the beginning. Since she was a child, she was interested in older adults, and explained, “I had concerns about how they lived, their welfare, and how they die.” She has worked in the field for many years and she is now focused on lifelong learning. She has graduate studies in education and she has been professor too. Sarah considers that learning contributes to the fulfillment and enrichment of seniors’ lives. She is very active doing networking for having the best teachers for the institute, supervising the curricula, and the activities of the institute. She is in constant communication with the board and the authorities of the retirement community.

Marie. Marie is the coordinator of this learning institute. She does all the registration process for senior learners and supervises the online registration. Marie prepares the schedule of courses and the catalogs and coordinates all the logistics of the institute. She expressed her commitment to provide a good experience for the learners, not just in the classroom, but in general within the institute. She mentioned she wanted the institute, to offer “more than just going to a class and learning something, which it is exciting by itself, but just to maintain that personal touch. That is my goal.”

Walter. Walter is a teacher of the institute. As teachers we are allowed to take a course for free, so I decided to take Walter’s course. It was three sessions. He was passionate about his topic and his lecture was interesting. He uses humor and questions for the learners, which generated more engagement among the learners. His wife came to one of the programs and she introduced him to the institute. He mentioned that Sarah, the director “got interested in what I can offer”. He has taught many courses over the past five years. Previously, he was working as a higher education teacher. He said, “I was retired since 2004, I entertain myself with my writing, my research, publishing internationally, those kind of things.” He is a great model for young researchers and teachers like me!

Patty. I am the researcher of this case study and am including myself here as a contextual participant, because I was a teacher in the *Brain Fitness* and *Brain Power* courses, and because as the researcher, it is my job to provide some context about the institute. I was also student of Walter’s course. In my own teaching, I taught the participants about brain reserve, neuroplasticity and how the brain works, but they taught me about balance, about music, about how to do Frakturs, about violets, about love, about

facing challenges, about being accepting, and many other things. As a metaphor of the institute, I see senior learners as small drops of water in the grass. The sunlight touches each drop and makes them shine differently. Each drop has its own colors. No one drop is like any other, but all are beautiful. For me, the sunlight represents the learning institute that allows each drop to project their inner beauty.

Participants of the Brain Fitness and Brain Power Course

While I was teaching my course and doing the interviews for this qualitative research, I learned many things about the participants. I saw some of their passions, their smiles, the way that they look; I learned about their hobbies, their pasts, their families, and in some cases, visited their homes and saw their photos. All the participants of this study were admirable people, with interesting and enjoyable stories about their lives. Given space limitations and for the sake of brevity, here I capture only brief profiles of them, but their stories are much richer than these profiles provide. Table 2 also provides a summary of the demographic variables of the participants.

Table 2.
Learner Participants' Demographic Variables

Name (pseudonym)	Age	Gender	Race	Educational level	Years in the Institute
Connie	84	Female	White	High School	10
Sherry	84	Female	White	Bachelors of Science	10
Greta	76	Female	White	Master's degree	1
Laura	79	Female	White	High School	½
Adele	72	Female	White	Bachelor's degree	2 ½
Tanya	83	Female	White	Bachelor's degree	10

Connie. Connie is an 84 year-old female. She is a very resilient woman. She had polio as a child and her parents paid massages for her until she could walk. She reported

that in a recent surgery, the anesthesia damaged part of her brain and since then she is having difficulties with writing or processing some concepts. Sometimes, she has the ideas but she cannot express them. She uses a walker, but nothing stops her. She came to all the sessions of the course even though she could not do all the activities. She created miniatures (houses, parks, hospitals, etc.) and Frakturs, (Dutch folk art). I consider her as an artist and an example of strength. She graduated from high school. During the course, she dressed so elegantly, always smiling, facing her difficulties, and sharing her life. She has participated every term in the learning institute since it opened, in 2005.

Laura. Laura is a 79 year-old female. She is in her second marriage. She lost her first husband when she was 60 years old during a vacation trip. After that, she started traveling. She traveled for ten years. Then she married her second husband, and they have been together for eight years. Her husband's family has received her very well, and she enjoys the interaction with her step-children and step-grand-children. Laura has been painting since she was 58 years-old, 21 years ago. Some of her paintings are in the hallways of the retirement community where she lives. She is retired, and her educational level is high school. During the course, she was cooperative, enthusiastic, kind with others, and very smiling. She said that she was like her mother, and "her mother was a great person". For Laura, this was her first term in the institute because she recently joined the retirement community (less than a year).

Tanya. Tanya is an 83 year-old female. She has four children and eight grandchildren. Her first husband died when she was 60. She married her second husband, and "ended up with 40 grandchildren" but she does not see them very often. Her second husband died too after 13 years of marriage. She is open for a new relationship; she said,

“you are always the same person that you were when you were 18 We are human, we are needy, we need love”. She likes to paint and started painting at 58 years old, like Laura. Her educational level is a bachelor’s degree. She said about herself “somewhat I am home maker, and somewhat student, but I am mostly retired.” During the course, she was always trying to do everything perfectly. She was hard on herself, trying to make sure that everybody behaves properly, and being kind with the other seniors. Tanya was supportive of her classmates, sharing the homework or explaining directions to others. She has been taken courses in the learning institute since teachers started teaching.

Sherry. Sherry is an 84 year-old female. She has a daughter and a son in law. Her husband died and she became a widow around her late fifties. Sherry and her daughter talk every day. Her sister and her brother-in-law live in the same retirement community. She has a bachelor’s of science. She worked as a teacher and now she is “retired, but eager to do things.” During the course, she was sensitive and sweet, she shared her knowledge, and she tended to challenge herself and encourage others to do so. She has taken courses every term since the institute began.

Adele. Adele is a 72 years old female. She is from another country, but she raised her family in the United States. Her extended family is in Europe, and she is a widow. She has children and grandchildren, and they live far away from her. She likes spirituality, art, writing, holistic medicine, different cultures, and social justice. During the course, she was expressing positive messages for everyone. In fact, she wrote an essay for her classmates talking about the importance of promoting greater understanding, better relationships and creating a “more harmonious and peaceful world.” She was friendly and smiling most of the time. She arrived to the retirement community

around two and a half years ago, and since then, she has participated in the learning institute.

Greta. Greta is a 76 year old female. She has children and grandchildren and some of them live nearby. She is a widow, her husband died when they were planning to come to the retirement community. Greta is a Penn State alumna. She is interested in genealogy, dances tap, and sells beauty products as her hobbies. Her educational level is master's degree. During the course she was analytical, gentle, and sincere. She was sharing her active participation in community activities, such as volunteering at concerts, or being active in her sorority. She has attended the institute for two semesters. She recently moved to the retirement community.

Summary of Participant Demographics

In sum, there were six learner participants and five contextual participants. All the learners were white, and they lived in the retirement community. They ranged in age from 72 to 84 years. Five were widows, and one was married. Four of them live in an apartment and two in a cottage. Their participation in the learning institute ranged from ½ year to 10 years. A summary is presented in Table 1. Regarding the contextual participants, they were also white, and just one of them, Alexis the student, lives in the retirement community. As contextual participants, there were two employees (staff), a teacher, a founder who was also a student, and a student that did not take my course.

Part II: The Findings of the Study

I begin the findings section with a detailed discussion of the context and aims of this learning institute. The last three sections present the findings of the study related specifically to the experiences of the older adults. In the second section, I discuss the

findings in regard to the senior learners' sense of well-being. In the third section, I discuss the participants' perceptions of the experience during the course about cognitive health, while in the final section I present the findings relating to the meaning of learning for these older adults. A data display of the main findings of the study is presented in Table 3.

Table 3

Qualitative Data Display

The Learning Institute. Context and Aims in Providing Learning.

A Need and a Birth

Intersection of the Retirement Community and the Learning Institute

Acceptance of the Terms and the Structure of the Learning Institute

The Commitment of Paid Administrative Staff and Volunteer Teachers

Challenges of the Learning Institute

Learners' Lives and Sense of Well-Being

Positive Life Satisfaction Due to Faith, an Active Life, and Close Relationships

Acceptance and Peace with Life's Limitations

A High Sense of Trust and Fairness

The Importance of Activities and Social Networks

The Support and Challenge of Religiosity

A Primary Preventive Intervention: A Course on Neuroplasticity and Other Networks

A Holistic Course Structure: Active Learning, Interaction, and Reflection

Knowledge about the Brain as a Source of Hope and Awareness

The Significance of Homework and Involvement for Senior Learners

Learning as a Shared Experience

Meaning of Learning for Older Adults

An Enjoyable Activity

Provision of a Broader View of Life

Motivation for Action and Connection

A Bridge to the World. Finding Social Validation through Learning

The Learning Institute: Context and Aims in Providing Learning

As I said before, this study was conducted in a learning institute for seniors focused on a population 55 years and over. The institute is part of a retirement community located in the central region of Pennsylvania. The retirement community began as a single facility, but there is now a second facility run by the same organization in a neighboring town. The learning institute began in the original facility, but now there is a branch in the second facility as well. This study was conducted in the original retirement community and its learning institute.

A Need and a Birth

Donella, a contextual participant interviewed, was one of the founders of the learning institute. She explained that people in Pennsylvania sometimes “don’t look more than Pennsylvania,” do not tend to travel much, and have little contact with resources outside of the local area; the institute may open new venues of knowledge for them. She and the other two founders considered the institute as an opportunity to broaden people’s horizons through learning. Donella mentioned that there were three pillars for the institute: legacy; leaving the knowledge to the next generation; and service and education. The three women submitted a proposal to a retirement community, a university, and a church. The proposal was supported, a board of trustees was created, and a director was hired. The director, Sarah, has been in that position since the institute opened. She said,

I had the privilege of starting the institute and I was able to research models around the United States and beyond, to see what has been done in other places.

Then I developed the model that we decided to try here. I had that opportunity

early on and then I became director of the institute.... Nothing has been done in this area, [for me] this was a part time opportunity to still do something on a high professional level and to work with people who have too much to offer, too much to share. It is enjoyable for me to learn from them. I am in the 55 plus age, so if I am not working I probably would be taking some classes myself.

Sarah also mentioned that the learning institute started in 2005, primarily and basically as another activity for seniors in the retirement community, but people from the larger community can take courses too. The catalog of courses states that all adults over 55 are invited to participate regardless of race, color, religion, sex, familial status, disability, or national origin.

The senior learners interviewed value and appreciate the institute. Donella, the founder said “it is the best thing that happened to the [retirement community]”. Once the learner participants began attending, all of them have continued taking classes uninterruptedly.

Intersection of the Retirement Community and the Learning Institute

As mentioned earlier, the learning institute is a part of the retirement community. The retirement community has plenty of activities for the residents, such as concerts, special meals where the residents can invite their families for a fee, a lot of exercise classes, day trips, activities for their family with and without children, fashion shows, lunch with theater, movies, swimming classes, and much more. The buildings are decorated with antiques and different galleries. Moreover, they have a lot of lounges for sitting and talking. There are two restaurants, and one coffee shop and the spaces are friendlier for seniors. Among the eight participants, seven learner participants of this

study live in the retirement community, and only the student who is the founder, lives outside. The senior learners participate in different activities inside and outside of the retirement community. When Laura is bored, she goes to the dining room where they have a fellowship table. She said,

If you don't know anybody, you don't have to sit by yourself. You get to sit with different people and you get to know them. Sometimes you will be up there for two or three hours and that is kind of fun.

Tanya plays dominoes on Fridays, attends exercise classes, and invites her family to some "premiere meals." Greta participates in the potlucks that the retirement community organizes for the neighbors of each street. Through these activities seniors can have entertainment, but also the opportunity to socialize with other residents.

Furthermore, the retirement community offers opportunities for volunteering, and the majority of the learners participate in volunteer activities on site. For example, Connie, is part of the food committee, Alexis is a hostess in one of the restaurants, and in the learning institute, Sherry works in the gift shop every week. Laura's husband drives rides to different places, and Tanya delivers baskets with goods to those residents who are returning from the hospital. She has two assigned streets. Through volunteering programs, the retirement community provides many opportunities for the residents to be active, feel useful, and socialize. It seems like a win-win situation where the benefit is for everybody. The community increases its programs and its quality having more activities and services managed by volunteers. The residents enjoy the activities and are being useful to others, which may increase their self-efficacy and self-esteem.

For the participants, the learning institute is another activity of the retirement community that seniors feel ownership. At some point the idea of having more facilities for the classes was discussed by the board and the director of the institute. However, the coordinator commented that the residents “were very angry... They wanted to hold it close. It is theirs. They are sharing it with the people from the outside... but it doesn’t belong to them”. Furthermore, for people from the broader community, the learning institute is a window to know the retirement community. The coordinator and the director commented that some learners now are living in the retirement community because they are familiar with the place or they have developed some connections. Walter, the teacher, mentioned, “this particular institution is so dynamic and offers so much. I myself, in my life, I am beginning to look at a possible place to move.”

To be in the institute opens new venues for people, and potential residents can see the retirement community from inside (installations, events, service, and so on). Moreover, they can meet people who are living there and get closer to what a retirement community can offer to them.

Acceptance of the Terms and the Structure of the Learning Institute

The learning institute provides the majority of the classes in two conference rooms that are quite a distance apart within the same building. They have great technological resources that improve the quality of teaching such as head microphones, big screens, powerful sound systems, and so on. Given the distance between the two conference rooms, there is little interaction between teachers or learners between classes. The physical distribution of the classrooms [in two different building] per se does not allow students to see one another. Moreover, it influences some decisions about the

classes. Connie said “I choose all my classes to be here then I don’t have to go to other buildings.”

There are two terms per year: spring and fall. The majority of the participants found the terms appropriate; however, Tanya mentioned that she would like to have a summer term. Sarah, the director, explained the reason there are no summer offerings:

[During summer] many of the individuals are still traveling. Many of them have family members who live in different states, in different areas of the country and beyond, and they spend a lot of time with their families. One or more months, the summer months. Sometimes during winter months as well, we do have people, a lot of people who visit family, probably in Arizona or somewhere to get away from the winter. So, I have had some request for programs in the summer or in the winter but not a lot.

Members must pay a membership fee per term. Connie, a student who has been in the institute since the beginning said, “We started with fifty [individuals] and now we are like 250 ... we are limited to five courses. When we started, the first couple of years I did 12 or 15 [courses] because there were not a lot of people.” Currently, as she said, the fee allows members to attend five classes only. The courses can be related to religion, history, science, literature, music, and so on. Greta said

It is so varied. I am going to go to the symphony on Sunday. That is one of the things that is like an extra thing, the symphony. I am going to do an Appalachian Trail hike in May. So if somebody looks at [the catalog] and cannot find something that interests them, then really they are not looking very hard, because

it is just, for a certain amount of money... you can take five classes... It is really good.

All the learners are very satisfied with the institute. Each course is between one and four sessions maximum. The sessions are usually one hour and a half, and may have from 5 to 60 participants. The learners commented that they prefer courses that are more than one session, because they can have more information. Connie said “I think one of my suggestions would be don’t stop upon one session. I enjoy the ones like yours that are frequent.” Laura said that she prefers 2 or 3 classes too. My course was eight weekly sessions, but in order to have more acceptance, it was divided in two courses. The learners understood that it was the same course because it was the same topic. Regarding duration Greta commented,

If you just want information, then the short course is fine, but if you are looking for more than just some information, like your course which is to help to keep your brain moving and working and thinking. I think the longer courses is good, yeah. When I first sign up I thought, I don’t think that I need a week of this, but obviously after go forward I decided that I will be there for more (laughing).

Furthermore, participants enjoyed involvement. Even though the majority of the classes are lectures, contextual participants and learners agreed that attendees prefer classes that include interaction and allow peer discussions. It may be helpful for the institute to include some training for teachers about how to have more interactive classes, given that it is something that learners enjoy.

The Commitment of Paid Administrative Staff and Volunteer Teachers

The administrative personnel include a director and a coordinator, who were hired by the retirement community. Donella (the founder), Walter (the teacher), and all the participants expressed that the institute has a good staff. Donella mentioned that approximately 50% of the population is from inside the retirement community and 50% from outside; she believes the administrative personnel have contributed to this success. She said “to maintain an institution is difficult. A good institution depends on its leader and especially this type of institution requires strong leaders.” All the participants agreed that the staff is efficient. The director finds good teachers, then learners have good courses, and the coordinator works in the logistics of the school (registration, schedules, classrooms, and so on). Alexis mentioned “I enjoy working with [Sarah, director] and [Marie, coordinator] ... They cover the territory so well. If you look at their catalogs, the sky is the limit as far as areas of learning.” The staff prepares and sends the catalog through the mail to many older adults inside and outside of the retirement community.

Seniors are invited to attend an event where teachers present their courses to the community. When I participated in the event, I was the only teacher who was less than 55 years- old. All the teachers were very friendly, and they look happy to be there. The institute offers an opportunity for seniors to teach and to continue doing what they love with a very accepting audience. Marie, the coordinator, mentioned an interesting comparison:

The participants and some of the instructors, it is almost like, it brings to mind teenagers going to a concert and seeing there, you know (laughing). They are not

actually screaming and turning their heads on the air, but, they stand in line just to talk to some of the instructors, especially if it is an exciting topic.

Both the contextual participants and the senior learner participants mentioned that teachers enjoy teaching, and this improves the quality of the classes. Sarah, the director, commented that teachers “were surprised about how much interest there was from the people who attended, so they end up loving it [teaching] and it is why many of them return. It is because, you know, that feels good.”

Many of the instructors were also teachers before. Walter, the teacher interviewed, is a retired professor, he taught in higher education for 37 years. He said, “I enjoy that kind of open interaction in the sense that it is easy to be the expert and the student, but we are all adults together, with great experience, and that is something I value.” My experience was very similar. I enjoyed every minute of every class that I was with them. Even though, I have been teaching for 15 years, the experience with older adults is always better than with higher education students. Seniors appreciate the knowledge, but also they share their own. So teachers and learners learn together. In my case it was very impressive to be with women that broke schemas. One of them was the first women faculty in one university; another was an artist, and she showed me pictures of all the miniatures that she created during her life; all the learners were always contributing with their experiences. So, for me, as a teacher, the learning process become much more interesting, than just giving.

It is likely that these teachers are not interested in working full-time anymore, but they still want to share their knowledge. For that reason, short courses are perfect for them. You prepare one, two, or a maximum of three classes, and you have the

opportunity to continue being ‘a teacher’. Walter, said, “I need to communicate my knowledge... [It is rewarding] seeing others enjoying the program and receiving the positive feedback. They gain something they treasure or they wanted to know.” Besides, for the institute it is easier to find senior teachers than younger teachers. Teachers who are not retired teach for money, so it sounds difficult that they teach as volunteers. In my case, I taught the course because I wanted to be fully immersed for my case study. However, I could not return because I did not have time to teach as a volunteer. If I would have been paid, I would not teach higher education anymore, and I would spend my energy and my time preparing my classes for seniors without a doubt. For me, it is more engaging and enjoyable.

Teachers have academic freedom, but they need to present a description of the course to the director for her approval. The learners and the contextual participants expressed that most of the teachers prepare their classes and the materials very well. If they do not know how to use technology, they come with handouts or with other materials. In the course in which I participated as a student, the teacher came with paintings about his topic, with books, and he gave us a summary every class. As a teacher, I also prepared a lot of materials for them. There is a great commitment from those who decide to teach, even though they are volunteers.

Challenges of the Learning Institute

The contextual participants shared some challenges that the learning institute faces. The director commented “primarily the funding, and getting the word out and keeping it out there, so people can see it. [Also] competition to a certain degree, yeah.” The institute has to pay the staff and the expenses of the production and distribution of

the course catalogs. Furthermore, there are many other activities inside and outside of the retirement community for seniors, so the institute has to compete for attendees.

Moreover, Sarah mentioned that the needs of older adults change constantly, and they can no longer participate “so you constantly have to be finding ways to reach new people, so advertising is a critical, critical, cost.”

Other challenges that the contextual participants mentioned are how to grow the institute, to make everybody happy, and to maintain volunteer teachers. The director said

[To maintain the teachers] is a priority for me. And to say something to someone who doesn't get paid, it makes it very difficult. But you focus on the mission of the institute, and how that benefits everyone —not just those who attend, but just those who share [knowledge] through it. And it becomes more important to these individuals [teachers] to feel the benefits and rewards of that.

You have to network all the time, and you talk to people, and through advertising you get some people, and sometimes you have people who become involved and you ask ‘do you have any friends?’, or people that they know through their communities and so forth. So that is helpful. You just constantly have to be working in that.

These words reflect also the difficulty to maintain the quality of teaching. From my perspective, to co-create knowledge in an interactive and innovative way requires theoretical knowledge about education. To teach well requires preparation and commitment. To teach something enjoyable requires knowledge and enjoyment of the subject from the teacher's side. To be a volunteer requires one to have the basic economic needs covered and to have the heart of giving. I consider it difficult to find many people

with all those qualities. Likewise, being part of an institution has benefits, but also difficulties. Walter, the teacher mentioned, “it is a very high-quality program. I know this kind of stress running a program like this, bringing people and administrating the situation. Certain audiences have to be pleased, not necessarily the students.”

A key point to maintain the institute is that the staff has not changed since the beginning of the learning institute. Then they are using their daily experience to maintain the high quality of the program. Furthermore, to face these challenges is worth it because the attendees value and enjoy the program. The retirement community has a way to show itself to the broader community, and the community has a learning service for the senior population.

Now that the context of the learning institute has been provided, I will discuss the seniors’ experience in greater detail. First how involvement in the institute affected learners’ sense of well-being and their social networks, next how involvement in the course on Brain Fitness and Brain Power affected their experience. Finally, the meaning of learning for these senior learners.

Learners’ Lives and Sense of Well-Being

The eight senior learners who participated in this study were quite a privileged population group, and they reflect the population that this specific retirement community has as a target. They were all white and with high socioeconomic position. All of them completed high school, the majority of them higher education, and half of them completed graduate school. Furthermore, learner participants were or are frequent travelers. As an example, Laura attended Elderhostel, an organization that offers educational trips and mentioned “at the Elderhostel you do the touristic stuff. My cousin

and I went to Hawaii, they took us to Honolulu, Maui, Kauai, and we do a lot of the tours. They are more for trips”. The majority of the participants have been lifelong learners and they enjoy reading. For example, before she moved to the retirement community, Sherry was participating in the adult education program from a Community College in another state. Others were professors, and others take different classes of their preference, such as religion, art, social justice, or holistic health. However, none of them have participated before in a learning institute that was just for seniors.

Through my experience as a teacher and the conversations with the participants of this study, I consider seniors as analytical learners. Donella mentioned that they do not want a young person to teach them how to live. During my course, even though they were always kind, they asked questions where they were probing my knowledge, For example one learner asked “so if I practice these exercises will I recover my hearing?” I answered no, and I explained that this was a preventive intervention. She was very satisfied with my answer because I knew my topic well. Furthermore, the director commented “they are very honest if they are not satisfied with something.” They like to learn, but they are expecting good quality in the learning process.

Regarding people from the retirement community versus people from the broader community, the contextual participants commented that both senior participants in the learning institute have very similar characteristics –independent, educated, high socioeconomic status, white; but people who participate in the institute from the outside the retirement community are younger. Walter, the teacher commented “[we have] people that, both from the community and here, that are very active and because of their

backgrounds, they are extraordinary with one another. The fella that was talking to, the one with gray hair, really handsome and well looking, he was my dean at the college.”

Another difference between those from the retirement community and those from outside is related to the topics of the courses. People from the retirement community prefer religious courses, “whereas the [outside] community people prefer science, history, [and] things that take place outside of their area” the coordinator said. This difference may be related to the fact that the retirement institution has a clear religious philosophy, and the majority of the people who live there, probably share that philosophy. Among the participants, who were all residents, just one did not share the Christian faith. Walter, the teacher who was interviewed, shared the same faith too and has taught many courses about it.

Positive Life Satisfaction Due to Faith, an Active Life, and Close Relationships

The learners interviewed reported high levels of happiness and life satisfaction. Even though the specific reasons vary, all of them included their past and their present as part of their satisfaction. For some of them, their faith is a source of happiness or a source of content. Tanya mentioned,

I am generally very happy. I find joy in knowing the Lord and what the scripture tells me.... I like people. I get out as much as I can.... I am in a quite good health. Better than the average physically. I have a great family. My daughter is doing all the arrangements for a friend and myself to go to England, and Scotland. I have been there but my friend has not.

Laura also reported a high degree of happiness but did not frame her happiness so much from a faith perspective, but rather in light of staying active and socially engaged.

She says,

I am very happy. Well my life has been very good. You know, even though, I lost my husband in 1997. We were going to retire early... He never got to retire. ..., [after that] my sister, my brother in law and I started to travel, and then my cousin's husband died so she and I traveled a lot. Ten years, I really went to a lot of places, saw a lot of things. I am so glad I went when I did because then my back started to give me problems, my hips, so it would be more difficult to do it now. So it is a good life, and I knew Don, and I've been married to him for 8 years. He is a good person. He really is. He is a good guy. I am very satisfied. I love living here at [retirement community name]. I wanted to be settled before I cannot do it anymore.

The only thing that diminishes the participants' happiness and life satisfaction is the loss of their husbands and a feeling of loneliness in some of them. Sherry, mentioned "I don't have that extreme happiness that we [she and her husband] did when we were living together. Although my daughter brings me a lot of happiness, but I feel satisfied, content. I'm in a good place."

Adele commented,

People have their lives. Not many people have time anymore to spare. It is just the way it is. My younger son has four little kids, and his wife... she still has parents.... Her father is now in the early stages of Alzheimer's. How would they have time for me? They don't have time, neither my son....It is what it is. I wish I

had some things in my life different. It is very difficult for me to not have my husband anymore.... That doesn't mean I wouldn't want some things different. I would like to see my grandchildren more.... Every day, I tell myself I trust God's eternal plan. I don't know what it is, but I trust it.

Similarly, Connie is rather happy because she is alone. Her family lives far away. She would like to have them nearby. She said, "then I could be very happy." These quotes reflect that the loneliness is about intimate relationships. They miss close relationships.

I specifically asked if they think that the learning institute contributes to their happiness and life satisfaction, and the answers were very similar. They said yes because it contributes to their pleasure for learning and it is part of their activities. However, from their comments, I do not observe it as a core source of happiness. The institute is just one of their activities. Doing what they like is what bring them life satisfaction. Adele said, "there are certain things that I like, but happiness has to come from me." Greta said, "taking class helps me, keep me busy." They are happy with or without it. The learning institute will have other functions in their life that we will analyze later in the chapter.

Acceptance and Peace with Life's Limitations

Even though senior participants have a lot of losses, like their friends or their health, in general their attitude towards life is very positive. Connie said, "I used to go on trips which was fun too, but I cannot do it anymore, urinary problems. They go to trips that I would love to go, but I have to go to the bathroom and... (a smiling face like meaning what can I do?)" In the non-verbal communication of her answer I recognized an attitude of acceptance of the new reality. Similarly, Sherry told me "I find that I am

not as alert as I was and I don't have the perspective or whatever it is. So I limit my driving." But, in her communication there was no sign of sadness or anger about it. It was acceptance of a new reality.

Greta said "You have to take life the way it comes, and you can't sit around and think what could've been". In the same sense, Donella mentioned that as seniors they have had pains and aches for a long time, so at this point in life, they know how to live. So even though they have health issues, their attitude and the activities that they have may maintain or increase their sense of well-being.

Likewise, the perception of health may be affected by the activities that seniors participate in. For example, Sherry mentioned,

You don't concentrate on the negative, you concentrate more on the positive, and you forget about your pains. I have found that at the end of the day. I had back surgery and I do have a lot of back pain, but if I am busy doing things, I forget about it.

Similarly, Laura said,

[Being active] gets your mind off of yourself and any extra pains you may have. It is amazing. When you are by yourself and you are lonely,... if you have an ache or a pain, it is magnified. If you are with another person and you are able to talk and laugh, play games or just being with each other, it takes your mind off of yourself and any extra pains that you have go away. It is just amazing.

Through these comments, it is clear that, even though seniors may suffer of physical challenges, their attitude towards their pain, the level of activity that they have,

and the social relationships that they maintain affect how they cope with these physical challenges.

A High Sense of Trust and Fairness

The participants, contextual and learners, have a high level of trust in others, and they think that they are treated fairly. They feel secure and comfortable within their community. This is important because it reflects part of the well-being of a person. Alexis said “I think they [people] try to be fair, most of the people I know at least”, they commented that they leave their apartments open and they do think that their neighbors will help them if they need something. This trust and sense of fairness are also related to living in a retirement community.

Independently if they live in a cottage or an apartment, all the participants report good relationships with their neighbors. They are cordial and help each other. Neighbors may substitute the social function that children cannot cover because they are far away, and diminishes the costs of living. For example, Sherry said “In our circle [street] if we need a trip to a doctor’s office and I can’t drive home, I just have my neighbors, we help each other like that.” Tanya said, “I am very well here. People are very caring and helpful; there is very little nastiness.” In the retirement community, the residents have social networks that they can use if they need to, but also they count with the institution itself. Connie mentioned, “Even though I am independent, if something happens, they would take care of me. Probably to put me up they would charge me more, but they would take care of me (laughing).” To feel secure and treated well contributes to a favorable sense of well-being.

The Importance of Activities and Social Networks

All the contextual participants and I agreed that senior learners are very active people inside and outside of the retirement community. The ones that are able to drive, three of them, have many activities outside. For example, Greta practices tap dancing in a group for senior ladies, is a very active sister in her sorority, helps her daughter to organize fundraising activities, and she said

I do a lot of things that, if I would be living in my house I would be doing the same thing. It really hasn't been a big difference with my outside connection... I am having more connections, but the one's that I had, it hasn't affected those at all.

Laura belongs to a group of artists, participates in Bible study, she gets together with her friends from the local community, with friends from her trips, and every Friday she and her husband have dinner with two other couples and she said "that's pretty much it."

The other four who cannot drive anymore (including Alexis, the student who was not in my course), are also very active socially. They enjoy the opportunities that the retirement community offers, and because there is a broad variety, they can pick what they like the most. Sherry participates in the bridge groups, in the Bible study, in the coffee fellowship, and she goes with a group of women to have lunch and a movie "when we have the urge to go." She was also in the orchid's society group inside the retirement community, and every Friday night "we fill this table right here with my friends, and we eat together" she said. The interview was in one of the restaurants of the retirement community.

Even though learners were very social, all participants agreed that the institute does not play a big role in their social interactions. Sherry, who attended to a Community College as a senior, compared the programs and she said, “I think the seniors tend to get together in the Community College Here at [learning institute name] you go just sit in the course but you really don’t get involved.” In this learning institute, learners go to class; they may meet someone superficially, but they report that they usually do not form new relationships from it. During my course, the participants interacted and they shared the activities, and some experiences from their lives. However, I cannot say that they developed a friendship or a bond. Probably, the only major connection was with me. When they were early, or sometimes after class, they shared personal information. Or during the interviews, some of them received me in their homes and showed me their personal belongings, their hobbies, or every place of their houses. Probably my figure as an authority, or my knowledge, or my unconditional acceptance, or even my personality influenced their openness with me.

The activities that the retirement community offers are highly relevant for this stage of life. It allows the residents to create new bonds. Laura mentioned

Anything that we do here with people helps to create a bond. You know, because you have a shared place, and that helps to have the bond. When you see that person again you have something to talk about, so it is good. It helps with your social interaction.... After I was here a couple months, I told somebody, I feel like I am just living within a huge family, and that is really how I feel.

When I asked specifically about their families, Laura, Greta, and Tanya told me that they each have one family member nearby. They tend to have time together but not

routinely. It is randomly, but they enjoy that time. The other participants do not have everyday sociability with their relatives unless their cousins or siblings are living in the same community, like is the case of Sherry, Laura, and Alexis. Adele and Connie do not have any family member geographically close. Regarding their children and grandchildren, all of them are in touch with them, but the majority live far away. Seniors see them only at specific times during the year. Furthermore, some participants' houses are smaller than before, so they cannot receive their families in their houses anymore.

Their everyday sociability is mostly from friends and peers, from the retirement community as well as the broader community. However, they do not have many visitors or activities in their houses. Sherry said,

I had a lot of company but, you know what, at my age many of those people are not living anymore, and the ones that are, don't drive, so it is difficult ... so that cuts down [the time] when people come to visit you. There is really no reason for people to come anymore to my house and that's fine with me. I like my alone time too.

Connie also commented that people cannot stay at her apartment because it is very small. During the course, she told me that she was mad and sad because she had a cottage and, since she had to move into an apartment, she cannot have or do the same things as before, such as have visitors or to work on her miniatures. The physical space and the ability to transport themselves changes the seniors' lives in some sense. It may diminish their social and entertainment opportunities, and their sense of well-being. During the interviews, people who do not have intimate relationships (close family members), like Connie or Adele, expressed sadness, they cried during the interview. Even

Tanya, who has a daughter nearby, expressed her need for more intimate relationships. So being social, does not mean to have the comfort and the feelings that intimate relationships may provide.

The Support and Challenge of Religiosity

One very interesting topic that emerges from the findings is how participants experience religion, even though I did not ask anything about it. It is important to remember that the retirement facility is a faith-based community, but it accepts people from other beliefs. Among the eight learner participants, six were Christians, and two were not. For the majority of them, religion plays a very important role in their lives for their spirituality. It gives them joy and peace. Moreover, through religion, they cover other social needs. They attend Bible school, they socialize in the events that their churches organize, and they volunteer for them. For Greta, who said, “I am not religious at all. That’s not a part of my life” the religiosity of the place is not always easy. She mentioned, “Well, everything here starts with a prayer.” In those circumstances, she does not say anything, or she usually has to ask somebody else to say the prayers.

Adele considers herself spiritual. She said, “Spirituality gives me a lot more than any religion gives me.” She expressed that she has had bad experiences because her thoughts differ from the thoughts of many residents. She mentioned,

I like religion that includes everyone. I don't like the division, you know? ‘We are right, you are wrong.’ To me, we are all God's children and that supersedes everything. A lot of religious people don't want to hear that, especially the fundamentalists. It's, ‘If you don't do what we tell you, you're wrong and you will not go to heaven.’ I don't believe any of that... They just believe black or white.

Nothing in-between, and most things are in-between, right? But they want excuses made for their shortcomings... Especially if someone is outside their group, then they're so much harder on them.

Adele commented that she does not like how some people can be so religious and so discriminatory at the same time. She considers herself as a fighter for social justice, and when she sees injustice, she tries to speak up. But for that reason, some people do not interact with her. For her “churches should be a catalyst to talk about how we are all the same, and work on bringing people together,” she said.

Religion may be very helpful for some older adults, but it could also be exclusive. To fit and belong to a group is part of the well-being of a person. To feel excluded or to be discriminated because you do not share the same beliefs may be hard for seniors. Especially, if it is in the place where you live.

The subjective well-being of the participants is related not only to the way that they lived their lives but also with the activities that they enjoy in their daily life. Seniors reported high levels of life satisfaction, no matter if they have to stay at home alone because they are having physical issues or if they are able to do activities outside the retirement community. The only factor that diminishes the happiness and life satisfaction of some participants is not having significant relationships nearby. The seniors interviewed are engaged in activities that they enjoy. It could be church, tap dancing, or the learning institute. However, the learning institute is not an activity that promotes more social interaction or happiness than other activities. It contributes to their life satisfaction and happiness as much as other activities do. The learning process itself will

have a relevant meaning for the learners, so those results are presented in the last part of this chapter.

The next section is related to the course that I taught in the learning institute. Even though the topic of the course was about neuroplasticity, there was no intention to measure neuroplasticity or to analyze any function of the participants' brains. As I mentioned before, the course was a primary prevention preventive intervention. The topics were designed based on the principles of neuroplasticity and brain reserve, but the intention was to promote cognitive health, and hopefully to delay or diminish cognitive decline. During the different sections of the course, participants obtained information and practiced different activities aimed at developing brain reserve. In the next section I am presenting the findings from the course.

A Primary Preventive Intervention:

A Course on Neuroplasticity and other Networks

Interventions to prevent or treat cognitive diseases are a relevant topic for seniors because nobody wants to lose their cognitive abilities. Nonetheless, as age progresses some abilities may diminish for some people, and especially for the older population. As discussed in chapter two, there are different interventions to prevent cognitive decline. Most of these interventions are focused on specific areas of cognitive performance, and the results have been positive for those specific areas and for a short time. This course was aimed to include activities not only for one specific cognitive process but also for the stimulation of the brain through different senses. I called a holistic course because it includes different sections, with the intention to work with the person as a whole. The brain is involved in all the processes of the body, so the parts included in every session

were the following: new information, cognitive stimulation, physical activity, meditation and spirituality, emotions, and social impact and legacy. There were eight sessions, divided into two courses: Brain Fitness, and Brain Power.

The results about the course were from the researcher observations, the critical questionnaire at the end of the course, and from the participants' comments during the interviews. Those quotes associated to a name came from the interviews. Those that are not associated with an individual were from the anonymous critical questionnaire. In the first section, I am presenting a brief description of each part of the course and the assessment of the participants' experience. It is followed by an explanation of how the learning acquired about the brain was used for awareness and hope. After this, I describe the importance that homework and involvement had for them, and I finalize this section with what I learned through the experience.

A Holistic Course Structure: Active Learning, Interaction, and Reflection

As mentioned in chapter three, the six learner participants provided their general reflections about the course during the interview. At the end of both courses, the senior learners completed an anonymous questionnaire and assessed each section qualitatively and quantitatively (see Appendix C and D). The scale was from 1 to 5, 1 being "I didn't like it" and 5 "enjoyable and helpful." Moreover, the questionnaire had lines to write qualitative comments about the sections. From the numerical perspective, all the sections have an average of "enjoyable of helpful" with small variations. However, the order presented here is from the qualitative perspective that does not necessarily agree with the numerical perspective. The sections are presented based on the relevance and value that learners expressed.

New Information. In the new information section the senior learners learned about the nervous system. They evaluated the section as helpful and enjoyable (4.6/5). I taught topics such as what a neuron is and how it communicates, the importance of neural connections, that the brain is able to change through neuroplasticity and neurogenesis, and the brain reserve theory. The knowledge acquired is what impacted them the most from the course. One student wrote “[it struck me] that playing games can help in keeping my mind sharp, that I can create reserve connections in my brain to be used as needed, [and] that trying new things will help build new connections.” Another wrote “[it struck me the] explanation of the parts of the brain and its functions, learning that we can make new ‘connections’ to strengthen our brain function, giving us positive exercises to show us how to improve brain functions.” From their words it is clear that participants understood the concepts.

The senior learners appreciated that the concepts were explained in a simple and understandable way, so they could remember them. During the interview Laura said,

I liked the course, the fact that you did not go into a lot of technical stuff, you just gave us the basics, which is good because I am sure if you go into the real technical stuff our eyes would be glazed over and it would’ve been like boring. But I thought it was good. And if you participate and do your homework, it makes it more meaningful. So I do know why you gave us homework.

I asked Greta if the course impacted her, and she answered that the information about the brain and how the activities may promote brain reserve is something that she will remember, she said,

The fact that, some of the information that you gave us about the neurons and your brain, and how the more connections that you have as you do lose connection, the less noticeable would be. If you lose 10% you still have a lot left (laughing), I would say that is the part that I remember and we will remember the most about the class. I think that doing the exercises and just in general talking, you know, about experiences and things, is good.

Cognitive stimulation. The section with the highest score was cognitive stimulation (5/5). In this section, there was a broad variety of activities where seniors had to use their senses and to challenge their minds. For example, they had to create quick stories with random images (processing speed), to draw the room where they grew up and share moments from that time (long-term memory), to play eye-hand coordination games (visuospatial coordination), or to guess different smells with their eyes closed, among others.

Because of the high number of activities, it was not expected that the learners remember all of them. However, with the variety, they understood that there are many ways to stimulate their brain. When I asked about her opinion about the course, Greta said, “The exercises, they were good exercises and made you think about what you need to concentrate on, and the general information, that was good too.” Furthermore, the participants associated the exercises with real meaning. One of them wrote “[it helps to recognize] many ways to keep our mind active,” another said, “[it was] very helpful to try new things,” one more noted, “playing games can help in keeping my mind sharp.”

Moreover, I observed that the variety of exercises helped them to feel comfortable with their abilities. Some learners were excited with math exercises, while others were

more engaged in art activities. The variety allows them to be good at some and not to be worried about being good at everything. One senior said, “I felt free to participate and not worry if I made a mistake.” It was very clear that the senior learners had different abilities. They helped each other when someone was not able to do a cognitive exercise such as completing a maze or to see an image in figure-and-ground images. One senior said, “I enjoy games.... [cognitive stimulation] also helps with social interaction with others,” another expressed that what struck her was “the variety of approaches to stimulate thinking, to express with drawings what one’s thinking, and the group participation.” In general, they were tolerant with each other and they performed their best.

Physical activity. The intention of this section was to teach senior learners the importance of stimulating their muscle-skeletal system as another way to stimulate their brain and to have different alternatives. Physical exercise was the second section most highly rated quantitatively speaking (4.8/5). These results were to some extent surprising because the retirement community offers a broad variety of physical activities. Probably the learners found these exercises valuable because they were easy to do without an instructor and at their homes. Some examples are chair exercises, balance in the kitchen, or exercising while watching television.

All the learners agreed that physical activity was an important section of the course. One student wrote “I will share the exercises with my students (arthritis exercises classes) especially the one about getting out of bed” another said “I enjoy physical activity, I am above average in this, and I know it’s important” and one more noted that

“physical exercises stimulates blood flow to the brain.” They got the message. Through physical activity they are working with their brains.

Emotions. This section was also helpful and enjoyable for the participants (4.6/5). Some examples of the activities were to write ten positive things about someone they disliked, or to share with their classmates some of their successes in life. The participants reflected on the importance of emotions for a happy life, and they were actually making changes such as “I intend to be more positive,” “[I am] working to think more positively” “[I am] becoming more aware of the good in my life, thinking about the information from class, and sharing my thoughts and feelings.”

Furthermore, seniors used the activities for improving their relationships. One of them said, “I want to be a helpful person to others and have them enjoy my company.” Another talked about the emotion section saying that “(it) gives us an idea of how we should act with others.” During the interview, some days after the course had finished, Sherry said:

This morning I had an experience, my cousin who recently became a widow, called me. She was crying on the telephone, and I was able to share some of the things from our class with her. Write down the things that you are happy about, I said. Even though you feel like you are not happy, you write the things that happened to you during the day when you were happy. So she said, ‘I am going to do it’, but she was so distressed, and I think I was able to calm her a little bit, I think that I have a better appreciation of other people’s feelings.

Sherry was recognizing herself as a more empathetic person, but also she was able to help others with their emotions, using one of the techniques that she learned in the

course. Through learning processes, seniors might develop new abilities that will help them to better cope with their life.

Legacy/Social impact. In the legacy section learners had to think about how they can positively impact the world. Some examples of this section were to write ten intentions for ten years, to teach something that they love, or to think how they want to be remembered. About the impact of this section, one student said, “[it helped us] to share ourselves with others and affirm ourselves.” Or another noted, “I like to think that my friends and family will continue to enjoy my paintings.”

The older adults felt very engaged with activities that represented new responsibilities in the present such as writing their journals, or their genealogy, and they saw these activities as a way to leave an impact in someone. Moreover, this section gave older adults an opportunity to share their strengths with their classmates. One of them came with an encouraging essay about the joy of life and gave it to each participant. She produced something that nobody asked for, and it has the only intention to impact her classmates’ thoughts. All of them were very engaged while teaching in the group. They shared knowledge that they value with the rest of the group.

The legacy section impacted their families, too. From the course, one student said that she was going to have a trip with each grandchild, so she could spend time with them. She was planning the first trip for the next summer. Something similar happened to another senior. She started sharing the activities with her granddaughter “every Sunday afternoon she plays with Grammy.” The legacy section opened new venues for them.

Meditation and spirituality. This section obtained 4.7/5. The senior learners noted that through meditation they could “remove bad thoughts.” This is very interesting

because none of the meditation techniques had the instruction to remove or work with bad thoughts. Some of them were for finding beautiful places (imaginary meditation), others were for visualizing their body inside, or others were working mainly with their breath while doing different movements. Curiously, they associated meditation with being healthy. One student said, “The things I learned will help me to put negative thoughts out of my mind. In doing so I will be able to help myself both physically and emotionally.” Moreover, in the general picture, learners associated that meditation may help their brain function. One student said “[it struck me] how important it is to breathe deeply to get oxygen to the brain. We tend to breathe shallowly.”

Spirituality was usually at the end of every class. We held our hands, and the learners had to thank a higher force. At the beginning of the sessions, one or two participants took the leadership and prayed Christian prayers. However, later on, the others contributed too, even one who considered herself atheist. Regarding this section, they understood that spirituality it is a way to value and enjoy what we have. They said, “it’s good to think about our blessings,” “thankfulness is so important because we have been blessed with far more blessings than many other people in the world.” It was very interesting that at the beginning their prayers were general such as “thank you Lord because you love us,” but as the process continued the statements were more particular, like being thankful for the class or for specific things about their classmates, such as “thank you to Connie for teaching us today.” To be thankful about life forces the learners to observe the positive side of the things that they are experiencing.

In general, the senior learners enjoyed and appreciated all the different sections that they experienced during the course. The next section explains how this knowledge was used in their daily life.

Knowledge about the Brain as a Source of Hope and Awareness

The seniors who participated in the course can use the activities that they practiced, but because they have the theoretical information and the understanding, they can create their own exercises. Moreover, being aware of the possibility to create brain reserve invites them to continue working actively on their brains. The seniors clearly understood that the course was not a promise of a healthy mind forever, but a way to work for maintaining a healthy brain.

They were educated and critical learners. They did not accept everything just because someone was telling them. This is very clear in one comment from the questionnaire. This participant wrote:

I don't know if this class could be considered "preventive of cognitive decline." I think the exercises were more general to repetitive learning. Which is good if it is practiced over time, and that work will turn into preventing decline. But without doing the things that we were taught over and over, then there would be no change.

Through this comment, the participant was questioning the efficacy of the courses, but at the same time she was recognizing that the changes in the brain (structurally or functionally) requires time and active work. Then, she understood the neuroplasticity processes and she can decide to apply them in her life or not. At the end, the learners will use what they found more interesting or helpful. They are encouraged to

work on their brains because they understood the reasons for the course and the possibilities that the brain reserve theory offers.

Applying and sharing the learnings. The courses were designed to be enjoyable and informative, so the results about the sections confirm that the intervention was positive. During the courses, I was usually inviting the senior learners to apply the knowledge at home and to practice the exercises with other people. The results were outstanding. The majority of them shared information or practiced the exercises with their family members or friends. Laura used the exercises and games to play with her granddaughter. She said, “You never know when you have the opportunity to bring some knowledge on a little brain like that.” Sherry also shared the information for encouraging others to do the same. She said,

Oh definitely [I applied the information] I say ‘this is what we did today, look at this, see what you can do.’ My sister says ‘I wish I could take that course’ and so do my neighbors. I speak about it, because it’s so real for me, I want to share it.

Furthermore, Greta expressed that she felt good doing the exercises. She said “when ... [we had to] tell someone you love about what you like about them, my daughter said, ‘and why you have to do that?’ But it made her feel good. And I guess it made me feel good too.” Connie noted “I thought a lot about things that we did, we practiced, and the internal things. Things that I wouldn’t think about perhaps.” These comments reflect that the knowledge was used for their life.

Awareness and hope. The participants expressed that learning about the brain and practicing different activities allowed them to visualize better outcomes for themselves. They know that is not a guarantee, but it offers a light to follow for

maintaining their cognitive skills. One student wrote, “[learning about the brain] is a hope,” another mentioned, “hopefully we will prevent cognitive decline.” One more wrote, “I feel hope in realizing that I can stimulate my brain function. I was learning in a fun and interesting way using games and activities.” The feeling of hope it is very clear also when Laura said,

I like to share some of the information and I have learned. You know about the brain and how oxygen is so important to the brain and doing things differently that you did before makes new brain connections and you need that reserve because if you ever get Alzheimer’s you need that reserve to pull on. I have been sharing those things with my friends.

Furthermore the learners were aware of the areas that they are low in and the areas they are sharp in. Connie said, “I was observing myself because I was not following through in some of the things. I really enjoyed it even though I did not do everything. You didn’t grade me.” They understood that no matter what age they are, participants can still work for maintaining good mental health. One student wrote, “we can continue to improve our brain even as we age” and Sherry mentioned

I feel like I’m a happier person. I like myself better. I understand some of the things that go on with the brain now and the fact that you gave me hope that even though we can’t prevent some of these illnesses out there, we can maybe push them out there further and keep ourselves in good shape longer and that’s what I’m hoping for. Yeah, I think that I do that because I’m hoping the same for myself.

I mean when you get to my age you realize it’s not like it used to be, You forget

people's names like I forgot what a metaphor was and the instant recall isn't really instant, it takes me a long time to come up with things. Which is normal, you know it is, but I realize now that it is normal, but I didn't before. I was concerned, but now I'm not as concerned. I want to keep trying but I am not going to get upset about it. It doesn't make sense, right?

This awareness gave her peace. She understood that some changes are related to aging and they are normal, but the learning process gave her hope and a sense to continue trying. Sometimes, just to understand what is happening and why, can make life easier. Furthermore, this awareness helps senior learners in their daily life. One senior said, "I find myself really trying to do new things," Adele said "if we don't change our thoughts, nothing's ever going to happen. It's not going to happen by osmosis. It starts first with thoughts, what we think, and then it goes into action. Either negative or positive." Consciousness may lead to action.

One comment that reflects how awareness can transform into actions came from Sherry, who said:

I feel more positive. I like myself better. I feel more compassionate to other people. I'm more tolerant about things that upset me before, don't anymore, It's just an overall feeling of goodness. For example, my roommate. The one that lives in the same house that I do. It is a two-cottage. Her dog is very annoying and I have spoken with her about it through the years and I don't think that she is very considerate of me when the dog barks all night long, and my bedroom and hers join back to back.

Now I'm just letting it go. I'm trying to... when I see her outside, I try to talk to her and be friendly to her. Before there was some hostility there and I think I'm doing better on that. Yeah, I'm trying, and I think I'm making progress (laughing)

And in general they projected the learnings into the future. Tanya said, "I usually talk out, probably too much during class. I am grateful that I had it. I am grateful that perhaps it is going to encourage me to grow." How long will these changes last? How long will the intentions stay? It is difficult to know, but at least, the senior learners are feeling positive and acting accordingly.

The Significance of Homework and Involvement for Senior Learners

As a teacher, I did not know that it was not common in the institute to ask seniors to do homework. As an educator, I consider homework as a good strategy for the learners to apply the learnings in different settings. Therefore, there were activities for home every class. The surprising part is that the learners received it very well. Laura said "I don't like to do homework, though I know it was a learning tool, so I did it!" Another student wrote "homework was unexpected and certainly needed to reinforce what we needed to do to improve our brain function."

Sherry attended to a community college before she came to live in the retirement community and she said,

While I was in a college I had to do the coursework. I had to study, I had to turn in papers. I had to do what other kids did. Here at the institute you are the first one who made us, but I am so glad because we got involved.

Around session five, I asked them to teach something to their classmates. The older adults had to think about it. I did not assign a due date. Surprisingly, the next class,

three learners were prepared. They came with materials, one of them even with a summary of her topic for everyone. I was very pleased with the commitment and the desire to contribute to the class. So homework was a new piece that the majority of the learners liked.

Furthermore, when I asked if they practiced some exercises other than homework, the majority did. They found it helpful. We can observe this through their comments. One student wrote, “Yes because you told us to =(and because it is good for me =) .” Another student said, “Yes I liked doing them.” Another mentioned, “Yes, I wanted to create new connections in my brain.” Participants took the initiative to do more. Therefore, homework should be considered as a positive tool when working with older adult learners.

Learning as a Shared Experience

An intervention touches the life of the participants, but it also touches the researcher. Being with the senior learners during the courses, I was sharing information but also, I was learning a lot. I observed that in some activities they were better than me! And this comparison was very helpful for both sides. For me, as an instructor and a younger person, it taught me that we are different and the difference is not always related to age, it is related to our experiences and skills. For them, it helped them to focus on their abilities, instead of their deficiencies. Moreover, the comparison between classmates shows that people age differently. Some skills can be diminished for some people, but there is no rule that applies to everybody.

In one exercise, they saw that I was very bad at balance, so two of them taught me how to do it correctly. One said, “Find a spot, focus, and it will be easy.” They enjoyed

sharing who they are and felt accepted and valued. Sharing their music, their experiences from the past, their challenges taught me to value and love older adults more. After every class I was amazed and very happy, and I think that it is something that all of us felt. Their comments regarding the course were, "I was there every day early (laughing), if that says something. No, seriously, I enjoyed it tremendously" Connie said. Adele commented, "I would say definitely positive. I appreciated it." Sherry told me "thank you for your course and for teaching us, and the things you have us do. I was just so happy, have to take it. I saw all of those courses and I said this may be interesting, and I am so glad." and Tanya mentioned, "I have appreciated it, I appreciate your work, I appreciate which you are trying to do, and you are probably are making some difference in our lives."

Particularly, these words, and this action research process encourage me to continue working with seniors. They have too much to offer, and they are so open to learn. The experience reinforces my belief that education does not have to be suffered, it has to be a joy, and it has to be helpful. If not, for what do we want that knowledge?

From this course, I also feel full of hope. Hope that through education, we can improve the quality of life of older adults. Hope that the different sections of the course may offer opportunities of change, not only on the brain level, but also in the person. Hope that we can do something to maintain our cognitive functions (or at least something to believe it).

Closing this section, through their comments, it is very clear that they enjoyed and valued the course. One student wrote,

The course helped to broaden my awareness of keeping my mind and body active and positive. Journaling can help me to let go of worries, concerns and negative attitudes, [the course] reinforces positive thinking, it makes one aware of having a ‘balanced’ life.

The metaphor that Tanya said was “this class is like a good healthy meal. I was going to say ice cream, but a little ice cream, yes. But it is like a substantial meal. Very, veery,... very much enjoyable and I think necessary”.

Through the course, learners had the opportunity to understand some concepts about neuroplasticity and the brain reserve theory, and learn how to apply them. The activities offer the participants new perspectives about how they may work with their cognitive health and they enjoyed this learning. This section reflects the findings from the learner participants only, but the next section includes the findings from both, learners and contextual participants. It describes the meaning that learning has for senior learners in the institute. As observed before, the students do not consider the learning institute as a main catalyst of happiness or life satisfaction, nor either a promoter of social networks. However, through the analysis of the information from senior learners and contextual participants, the learning process itself –developed through the learning institute, has a lot of meaning for senior learners, and especially for those who live in a retirement community. The next section presents these results.

Meaning of Learning for Older Adults

This is the last section of this chapter. It refers to the meaning that the learning institute, as a provider of a learning process, represents to senior learners. The institute becomes very relevant for the life of participants given that offers opportunities for

learning, and learning has a big significance in these seniors' lives. The first part of the chapter explains that the learning process per se is a gratifying activity for these seniors. The second section describes how the knowledge broadens the participants understanding of life. The third part explains that seniors use learning as a tool for compensating the normal challenges that they face due aging. The fourth section describes that the learning process is a motivator for seniors and they use it as a way to connect with family and friends. Finally, the last section presents that the learning institute functions a bridge to the broader community for its attendants, especially for those who live in the retirement community.

An Enjoyable Activity

For teachers and senior students, learning is a pleasurable activity. All the interviewees agreed that seniors enjoy the teaching-learning process. Connie said, “[I like that] I am learning things that I would not learned possibly.” In the same sense, Walter the professor said, “as a teacher, what you see verbally and non-verbally, and get from those, [learners] seem to enjoy it. There is a certain level of excitement and appreciation.” There is enjoyment, but learner participants do not mind if they do not keep the knowledge acquired during classes. Tanya said,

Overall my experience, I enjoyed the classes tremendously, and this is negative, but, as other people say, I love the course, I really soaked in, and then I go home and forget it, because that is the way the brain is. I have a friend who will not take any more courses because she says ‘I forget them.’ I said, who cares, we enjoyed it.

In a similar vein, Sherry commented on the importance of the enjoyment not so much on the remembering of details:

I don't know where they come up with all these good people. I mean, we had a trip last year... we just have a wonderful time. I think that the fact they have these retired professors, they kind of like to get back into teaching a little bit too, and they are very knowledgeable and give us some of the knowledge. I wish all stick up here (laughing). The main point is to enjoy not to remember.

These comments demonstrate that there is something special just in the learning process itself. The main point is to have the process, with or without the knowledge. Then, if someone has memory difficulties, it is not a problem at all. They have the benefit anyway.

Another pleasure within the institute for the participants is to look forward for the spring and fall catalogs. They get excited about the new courses that the learning institute has for them. Tanya said "I eagerly wait for the kickoff and to see what they are going to offer." The staff reported that sometimes, learners get frustrated because they have a hard time deciding which ones to take. But, once they signed, they enjoy the anticipation, and to wait for the course. Teachers also enjoy the learning process per se. The director considers that no matter if the seniors are students or teachers, she states that something important for the senior population is:

Just to see people fulfilled and enriched and, feeling and seeing value in their lives. I think that is so important, and it needs to happen at any age, so people don't become depressed and discouraged and withdrawn. They continue to

engage with others and again, be fulfilled, and again to be able to give their resources, what they have within themselves, mentally, spiritually, emotionally.

To receive and to share knowledge comes with a lot of enjoyment. The learning institute offers the conditions for this positive stimulation. When I asked Alexis about a metaphor for the institute she answered the word “delightful.” Some seniors had a hard time to find a metaphor, but this adjective perfectly describes the joy of learning for her.

It appears that the learning institute satisfies many of the learning needs of the senior population. The participants of this study enjoyed learning activities before they came to the institute. Laura said “I always found learning to be fun”. The classes are “totally stimulating to their thinking,” the director commented. The institute helps seniors to fulfill their needs of learning. Learning makes a difference, makes life more interesting for this type of educated population. They do not want to retire and lose something that they like. Alexis commented that “television is not hundred percent satisfying” and attending to the institute is better for her than sit at her house day after day. She said “why not fill my time with something I am interested in?” Sherry said, “I think that it is wonderful that we can get our minds working again, not just sit and become a vegetable”. Walter the teacher commented,

I sometimes look at advertisements for other institutions and people are playing cards or they are sitting in front of the television watching, or having tea. I look at those and I say, I don't want to go there (laughing). I want more out of life than that. I am looking for something like what I can get here, that keeps me interested and stimulated, looking forward, and that serves the needs I have, coping with the aging process.

He considers that when he has to leave his house, he is likely to choose a retirement community that offers education, because it offers alternatives for his mind, such as this learning institute.

The coordinator said, “[they enjoy] just being a member and belonging with these other people, and sharing ideas. Sometimes you don’t agree with each other but they usually walk away not angry at somebody because they disagree with them.” The director also commented that the peer learning experience is important because allows them to hear the perspectives of different people.

Provision of a Broader View of Life

Senior students use the knowledge for improving or for understanding their daily life. Learners and contextual participants commented that gaining new knowledge broadens their horizons, and they are more aware of things that they were not before. Laura commented about one of the courses. She said, “the Orthodox iconography was interesting mainly because of the connection with my husband.....” Her husband is Orthodox, and through the course, she understood why they have saints. She mentioned, “I always felt that the icons, like the Virgin Mary or Saint Nicholas or whatever, that there was almost idolatry, and when I took this course I found out that’s not the point of having these images or icons... But they are not going to convince me to become Orthodox. It helped me to understand more their faith... I go occasionally to his church.” A different perspective allows seniors to see more things, and probably to act differently in their daily life. Tanya said, “[the institute] has introduced me to different subjects finding out that I enjoy history.” Being around of new topics allows participants to develop new interests.

Furthermore, knowledge is used for real life. Seniors choose their courses, courses that may be significant for their current life or for their loved ones. Adele took a course about Indian Spiritual beliefs, and she enjoyed because it was an opportunity to have different points of view. She said, “[the teacher] did not allow over demonization of other religions. That is what people need to hear. Can’t we all, in a way, be right? Stop the judgment to begin with, welcome everybody.” Through the institute, Adele finds a way to express and to hear things that are similar to her beliefs. It is like an oasis in the desert.

The classes selected are helpful for them most of the time. Greta said, “there was a chiropractor that came and talked to us about osteoporosis, so I told [my friends] and showed them, and people wanted to email him, I will give them the email.” Participants expressed different examples where they learn something and they put that knowledge into practice, such as how to grow African violets, exercises for osteoporosis, or how the bacteria works. Donella said, “everybody you meet knows something you don’t know.” This attitude helps seniors to be open, to be a lifelong learner, and improves their understanding of different topics.

This broader view of life also includes dealing with the processes of aging. Seniors’ bodies are changing due to the normal process of aging and the institute helps them to deal with those changes; for example, Alexis is having problems with her eyes, and she said, “I enjoy reading. I am a relatively slow reader, and I have some problems, so it is well for me to go and sit and listen”. They understand that because they are changing, they have to compensate the physical losses. Greta commented, “everybody should take advantage of it [the institute] because as we get older we need to have stimulation.” Seniors associate the learning process with a specific benefit for their

minds. Tanya mentioned, “the institute is important. It is important for me. It enriches our life, in that it is enriching my mental capacity”. Likewise, Sarah, the director said, “I believe, personally it [learning] really does help our minds to remain sharp. It keeps us stimulated and thinking.” They use the classes as a way to maintain their cognitive function and to face their life changes.

Alexis expressed “I think because as one becomes older, life sort of closes in. You don’t travel as much, you don’t get out as much, you don’t have the needs to go shopping and all that kind of thing. This is a chance to just expand and look beyond, and enjoy all kind of things that are out there. People bring their information to us, then share it in classes and so forth.”

Sherry was sharing that she gets too much from the classes, as an example she mentioned a course that she recently took about volcanoes and earthquakes. She said

When I visited Iceland, on the remote activity you can see the geysers. He [the teacher] imported that knowledge to me that I remember seeing it. So I went to that course to refresh what I have seen when I was over there. And of course, we talked about the earthquake in Chile, and one that just happened in Nepal. It was very interesting. Some of them were already in my head.

Probably at this point in their life they cannot travel or read as they were used to, but the learning institute offers them the possibility to revisit their knowledge and to enjoy things they like, beyond their physical changes. Greta’s metaphor about the institute was “Learning + participating = well-being.”

Motivation for Action and Connection

The learning institute is a motivator for the participants. For the seniors who live in the community and also for Donella, who lives outside of the community, attending to the institute was a way to be outside of their houses, a way to stay around people, to see others. Sherry explained that:

[the institute] fulfills the need to learn. That is my main thing. It also gets me out of my house. I have to get out and meet people event if I don't see them again... Your life could be very boring living alone if you don't make yourself do things. So it is what I do, make myself do things.

Marie, the coordinator also highlighted some of the social benefits provided to participants by the institute: ,

[the learning institute] helps [individuals]. Especially for those that, before they became involved with the institute, were off to themselves, staying in their apartment or cottage, because, for whatever reason, they just do not have the energy or they don't have the desire to get out and interact with people. Sometimes they come here [retirement community], and they are just sitting there, just waiting to die, which is very sad. I mean they still have so much that they can experience and can offer. I have seen there were some like that. They were involved in the institute, and they are talking to people, they are getting involved. They have gone from always staying in their apartment to being involved in the institute, may be starting to volunteer, in other places. I have seen it being used it as a stepping stone, to bring them out, and get them back out into the world.

Senior learners share the information acquired through the institute with their friends. It is a way to help them, to have more conversation topics, and to encourage friends to come to the institute. Laura said, “You can learn a lot ... then you can share that information with your friends. I feel good about the institute because I was telling my friends about it, and I said, you can go too because they take people from the outside, you don’t have to live here.”

Furthermore, the information learned is useful to connect with family members. Donella mentioned that “[senior learners] develop skills like computer, and they can get in touch with their family that are away.” Through participating in this educational program, learners use the knowledge to establish communication and open different conversations with people. The coordinator mentioned “it gives them something to share with the family beyond the doctor's appointments, behind planning the end of life... things that tend to take place, because I see that happens with families and residents here.. It is another element that they can share with their family. It just kind of adds another dimension to the relationship.”

The institute becomes really important for the participants and they shared this relevance with their family members. That was very clear in my course, but it happens with other courses too. The director, Sarah, shared a story with me, and said:

The person who comes to mind is a person who is a well-educated person, this person shared a Christmas letter with me, wanted me to have a copy, and quite honestly, I was thinking, ok here is another holiday letter. That was my own bias, a lot of times when you get a holiday or a Christmas letter, people talk about ‘my children did this, my grandchildren did that’, and on and on, and that’s wonderful,

you know. It is wonderful that people are sharing that..., but this person give me a copy of the Christmas letter, and when I sat down to read it, I was totally pleased because they did not talk about what their family members were doing. It [the letter] talked about what they were doing and how meaningful it was to take the classes, and giving examples of the classes, and what they have learned in these classes. This person is giving this holiday letter to their family who are in other states, and the hope was that their children, grandchildren, and greatgrandchildren could learn something from what they were sharing, and that really touched me. That it is so beautiful, that just said that that person was valuing what they were learning and the fact that they were keeping their mind stimulated, and they wanted to share that as a gift to their own family members. I think that that's really special. That's one of the neatest things I have experienced.

The knowledge received in the institute represents a connection, with friends, with family and with the world.

A bridge to the World. Finding Social Validation through Learning

Being a senior learner changes the vision that people may have about themselves and how others conceptualize them. Donella mentioned that during elderhood seniors have to give up so many things. For her, it was difficult to give up the power, like the power of being a faculty member. She said that it is very difficult to give up the responsibility to make decisions, to impact the community, to do things for the society and community. "You have to give up part of that" she said. Participating in the institute, senior learners fight with stereotypes, showing the society that they can do things that the

society values as positive, such as education. Through the institute, Donella said “people can see that older adults are not decrepit, or not all of them.”

The learning institute has the function to make them feel productive, and part of the broader community. Walter explained this process clearly. The teacher said,

This community is connecting with a wider community. It is a more important aspect of this program, because it is 50 percent outsiders and 50 percent insiders which encourages people to see themselves connected with the world. We did not retire into a retirement community and disappear from the world after a while. I think it helps. Participants maintain, what we all need, which is a sense of, there are still things to do, things to learn, to know, and these programs encourage that.

Alexis said,

I feel it is rewarding. I feel stimulated. People who participate, in their mind, are open to learning and hearing different points of view. Continuing to be aware of the world out there, which we moved from or which we were active in when we were employed. I think it is a definite breach to the world out there that we need... The institute offers organized planned activities that frequent expand out into the community or around the world.... It is a way of keeping up to date with the world around us and beyond this.

Education for these older adults means not become obsolete. It allows seniors to continue being part of the society. The learning process for seniors offers much more than knowledge.

Finally, even though the learning institute was not mentioned as something that highly affected their subjective well-being, these last results demonstrate that the learning

process does. Seniors find the learning process satisfying, helpful, motivating, and as a way to connect to the broader community. Learning is an important activity for these age cohort and especially for those who live in a retirement community. A learning process contributes to the seniors' sense of well-being because allows them to continue enjoying life, to feel capable, and to feel connected with the larger society.

CHAPTER FIVE

DISCUSSION

The purpose of this study was to explore participants' experiences and perceptions of the development of community well-being as a result of their participation in a learning institute for older adults, and in a particular holistic course aimed at the overall promotion of cognitive health. There were three research questions that guided this study:

- a. What is the overall context of this learning institute and its aims in providing learning opportunities for older adults in a particular community?
- b. How do participants perceive that their involvement in the institute affects their well-being, social networks, and their participation in different groups inside and outside of the institute?
- c. How do participating senior learners describe significant experiences in specific classes related to cognitive health and well-being?

This discussion is divided into four primary sections. It begins by linking the findings of the study with the literature and research questions. Because I have an interest in cross-cultural perspectives related to learning for older adults, the second section offers a comparison between the learning institute analyzed and a learning institute that I developed in México. Third, it moves into a discussion of the implications of this study first for the field of adult education, and then for retirement communities and learning

institutes in the world. Fourth, the limitations and suggestions for further research are considered; the chapter ends with my reflections through this exciting journey.

Findings in Light of the Research Questions and Theoretical Framework

Learning institutes for seniors are known in other countries as “Universities of The Third Age (U3A)” (Hebestreit, 2008; Formosa, 2010) and in the United States, most often as “Lifelong Learning Institutes” (Brady et al., 2003; Lamb & Brady, 2005). In this study, I refer to them indistinctly as “learning institutes”.

Culture makes a difference in the way that these educational institutions for seniors operate. For example in countries such as United Kingdom, Iceland, or Australia, volunteers help to maintain the U3As (Chester, 2015). In other countries, larger institutions support the learning institutes for seniors. For example, the government, in countries such as China or México, supports these institutes, while universities tend to support them in Spain, France, and Costa Rica (Bru Ronda, 2015; Chen, 2015). There is no “one way” for such learning institutes to operate. The concept of education for seniors is relatively new (around 40 years), so the institutes are trying to find the best way to tend to the learning needs of their seniors. In this section, we explore the findings in light of the three research questions, focusing on the context of the learning institute; community well-being issues for seniors; and their experiences in a course related to the promotion of cognitive health. At the end, we discuss what the findings suggest for learning among older adults.

The Learning Institute in Context

The first research question of this study was: *What is the overall context of this learning institute and its aims in providing learning opportunities for older adults in a particular community?* In order to discuss the findings in this regard, it is helpful to put this institution in a world context.

As we observed in the first category of the findings in Chapter Four, the general context of the learning institute analyzed in this study is very similar to others in the world. It offers non-formal education, and it is dedicated exclusively to senior learners, people who are older than 55 years old (Formosa, 2014). Like the majority of learning institutes in the world, this institute has a peer teaching system where teachers are volunteers, and the curriculum is focused mostly on liberal arts (Brady & Wolf, 2010; Formosa, 2014). It has affordable fees, and seniors have access to a certain number of courses. Previous research states that senior learners prefer a non-formal structure where they have flexibility on their schedule, and they do not have to be graded or worried about credits (Lamb & Brady, 2005; Simone & Cesena, 2010; Swindell, 2002; Wolf & Brady, 2010). The learner participants of this study like the structure of the learning institute.

Two institutions working together. As I said before, the learning institute operates inside of a retirement community, but as an independent institution. It shares the installations, but it has its own authorities that work autonomously to a certain extent. For example, the retirement community is grounded in the Christian faith, but the institute may offer courses related to other religions. The retirement community offers educational, social, and recreational activities primarily for its residents while the service

and the courses of the learning institute are for residents and non-residents. This organizational structure is similar to the French model and to the Osher Lifelong Learning Institutes in the USA, where learning institutes for seniors are a part of or are supported by universities (Wolf & Brady, 2010). Even though the institution that supports the institute analyzed in this study is not a university, it works in similar fashion.

As noted in Chapter Four, one distinctive difference related to the institute that was the focus of this study from those in other places is that the institute is located within a retirement community and it represents a bridge that connects resident learners with the broader community. This was not observed in any study reviewed because the majority of learning institutes are not part of retirement communities (Formosa, 2014). This learning institute is a place that seniors can go easily even if they do not drive, or they use a walker, but it is also a place that represents the outside. Residents see people from outside; they discuss topics from outside; and the teachers will talk about things that are happening outside. So, it is a small piece of “outside” inside the place they live.

Learning institute characteristics. The demographics of the institute are very similar to other institutes in the world. As presented in Chapter Two, I reviewed studies from nine different countries and in all of them, the participants were mainly white and tend to represent a more moneyed and more educated demographic. There are more women than men (perhaps because women live longer), and the demographics of these studies indicate that the majority of participating seniors have more than 16 years of education (Hebestreit, 2008; Johnson & Bungum, 2008; Narushima, 2008; Swindell, 2002; Wight et al., 2002; Zielinska-Wieczkowska et al., 2012; Wilinska, 2012). In my study, the learner participants share similar characteristics. It seems like education for

seniors reaches a more privileged population. I will discuss this in depth later in this chapter because it has implications for the adult education field.

The participants associated with this learning institute wanted to improve their minds. They believe that learning, through these courses will and do improve their minds and their cognitive abilities. These are their perceptions of their experiences. Though I did not measure brain changes through MRI studies or cognitive tests, as mentioned in Chapter Two, studies developed with animals and with humans have shown that learning activities produce changes in the brain function and structure (Johansen-Berg et al., 2012; Sampaio-Baptista et al., 2013). Hence, the participants' perceptions are not likely far from what other studies have found. Learning institutes provide valuable opportunities for seniors because they provide older learners with cognitive stimulation.

Similar to participants at other institutes in the world, senior participants of this study enjoy interactive discussions (Lamb & Brady, 2005; Narushima, 2008; Swindell, 2002), though, in this particular learning institute not many teachers promote them. The learner participants commented that the majority of the teachers offer lectures and the learners just sit and listen. The fact that teachers do not promote more interaction is likely related to three primary factors. First, most, teachers do not receive any specific training about education for older adults or about the expectation of the institute. As a second factor, teachers are volunteers, so it is difficult to guide their behavior or to ask for improvements in their teaching style, and third, the lecture teaching style is likely the most common in American culture, and what is most modeled at American colleges and universities. Hence, it is likely that educational programs teach through lectures.

Learning institutes and their relative vulnerability. During the development of this dissertation, I participated in the International Conference of the International Association of Universities of the Third Age (IAUTA). There were representatives from Denmark, United Kingdom, Hungary, Iceland, Sweden, Australia, Brazil, Spain, China, and many other countries. The experience offered me more information about the challenges that learning institutes face, and allowed me to compare it with the findings of my study.

The majority of the Universities of Third Age (U3A) are vulnerable because they do not have paid personnel. Some of the learning institutes are managed by senior volunteers, and the majority of them have volunteers as teachers which is a relative vulnerability; as independent institutions, they are strong if they have a good amount of committed people, but once these volunteers change, the institution may change. Brady, Cardale, and Neidy (2013) developed a study to explore issues related to the development of learning community among learning institutes. Through an online survey among 65 directors, they found that some obstacles that these institutions face are the shortage of staff and the resistance from some instructors to change their educational methods. The learning institute of this study deals with these challenges too. It is difficult to have expectations for volunteers and expect that they follow them. Furthermore, this institute is stable because its staff is committed to the institute, but also because it is paid. The payment offers accountability.

Like many other U3As, the academic programs of this institute are based on the knowledge of the volunteers, and there is no agreed learning approach. They have many different courses which change based on the availability of the teachers. Another

challenge observed in the institute that is shared with other U3As, is the competition with internal and external activities. Brady et al. (2013) found that learning institutes compete with the activities that continuing education departments offer within the universities where learning institutes reside. In addition, they compete with the local external community that comes in the form of community colleges, retirement communities, hospitals, museums, parks, recreation programs, and so on. In this particular study, the external competition also includes churches. There is a high competition for parishioners, so they promote many different educational, social, and community activities. The internal competition was not with a department of continuing education as other institutes, but with the multiple activities that the retirement community offers.

Different studies have found that older adults who participate in learning institutes have better communication with people, reported more friends among classmates, and relationships with peers (Brady et al., 2013; Chambers & Pickards, 2001; Fok, 2010; Swindell, 2002). However, the findings of this study report something different. In general, the learning institute analyzed does not necessarily create ongoing social relationships among its senior learners. In the next section I will discuss the differences between this study and other studies. This information is highly relevant for this research, because it is related to community well-being, the focus of the second research question.

Learning Institutes and Community Well-being for Seniors

The second research question was: *How do participants perceive that their involvement in the institute affects their well-being, social networks, and their participation in different groups inside and outside of the institute?* Well-being, social networks, and the participation of the learners in groups are analyzed through the

framework of community well-being (Cox et al., 2010; Merriam & Kee, 2014; Miles et al., 2008; Murphy, 2010; Wiseman & Brasher, 2008). As discussed in Chapter Two, community well-being is a broad term that can be slippery because of the lack of consensus on its definition and its recent use in diverse fields. Of course, the term encompasses well-being and community. But the way that these terms are defined and used have great variations depending on the field and the purpose. Community well-being relies on the assumption that our capacity to realize our potential is deeply affected by collective and social relationships (Wiseman & Brasher, 2008).

For this study, I used two components that were present in all the resources reviewed: subjective well-being and social capital, then I analyzed those terms in depth (Cox et al., 2010; Bernini, Guizzardi & Angelini, 2013; Merriam & Kee, 2014; Miles et al., 2008; Murphy, 2010; Wiseman & Brasher, 2008). Subjective well-being is often considered to be the levels of happiness and satisfaction with life that individuals report in their lives (Dai, Zhang, & Li, 2013; Murphy, 2010; Selim, 2008, Tinkler & Hicks, 2011). Social capital is used to describe the social networks and the resources that are made available to individuals or groups by virtue of networks and their associated norms and trust (Balatti & Falk, 2002; Forsman et al., 2013; Garman, 2006; Ramlagan et al., 2013).

Community well-being, as defined for this project, is the individual's levels of reported happiness and life satisfaction (subjective well-being), and the resources (e.g., fairness, helpfulness, trustworthiness) and networks (e.g., neighborhood connections, trust in different groups of people, sociability) that facilitate cooperation for mutual benefit (social capital).

Subjective personal well-being. Regarding subjective personal well-being, this study found that all the senior learners consider themselves as happy. They live with joy their life. For all of them, valuing their past as a good life and recognizing their accomplishments made them feel happy. For some of them, their faith is a source of happiness and for others, feeling secure, staying active, and being socially engaged. The seniors from this study are also satisfied with their lives. They judge the overall quality of their own life favorably. As Selim (2008) mentioned, high life satisfaction suggests good quality of life.

For the senior population, the literature agrees that retirement time may be accompanied by challenges in health (Goldsmith, 2004), by losses of status (North & Fiske, 2012) and diminution of social networks (Nyqvist et al., 2013). In some cases, these particular conditions are difficult to deal with. The findings confirm this information. Participants talked about the loss of their friends and partners, the difficulty in giving up the power of making decisions and no longer make an impact in the society through their jobs. Moreover, senior learners talked about the physical pain and difficulties that they experience in their health. However, these situations are not necessarily something that they report as sad or something that affects their subjective personal well-being.

The level of activity and the type of activities that seniors do, affect the way that they cope with these challenges. For example, the majority of the participants agreed that being active helps them to “forget” the pain, and being in the learning institute makes them feel that they are doing something good, that they are still active in society. Dai et al., (2013) explored the relationship between resources and subjective well-being in later

life. They found that older adults who possessed adequate resources were more likely to participate in physical and social activities, which contributed to higher levels of subjective well-being. In some cases, learner participants cannot do the same things that they used to, like reading or traveling, or they do not feel “extremely happy” as they used to be because their partners are not here, but they accept these changes as part of life. At least these seniors talk about their losses (friends and family) with acceptance and calm; “I am ok with my alone time too”.

There are many factors involved in the high levels of subjective well-being of these learner participants. First, they have all their basic needs covered, (house, food, medical attention). Second, they value their past as a good life. Third, they are very active, and fourth, they have good levels of social capital, which means they have good relationships that they can rely on. I found the last reason very important because the only thing that diminishes the happiness of two of them, was not having meaningful relationships nearby, such as a family member. They have all the other components; needs covered, good pasts, many activities, but they are missing significant relationships. Lykes and Kimmelmeier, (2013) compared loneliness in older population among collectivistic and individualistic cultures. They found that for both types of cultures, the absence of significant ties is associated with loneliness. So, significant relationships are important for the elders’ subjective well-being. What I observed in this study is that in some cases, family members of the participants live far away or in other states. Based on the interviews in these cases, not having family members around was the only thing that diminishes their well-being.

The participants in this study were economically quite affluent, and also enjoyed a great degree of subjective well-being. The findings of this study then, lend support to what other studies have found: that economic resources that older adults possess may influence their levels of subjective well-being (Dai et al., 2013; Selim, 2008; Vinson & Ericson, 2014). The high socioeconomic position of the participants in this study allowed them to take part in various activities, which contributes to higher levels of subjective well-being. Moreover, the perception of their life, the choices they made, past and present, and the acceptance of their current circumstances influence their subjective well-being. Vinson and Ericson (2014) note that choice in life is strongly associated with both happiness and life satisfaction. This study also confirms that the choice of participating in learning activities contributes positively to the subjective well-being of senior learners, in the sense that it is another activity that they enjoy (Selim, 2008).

Social Capital. This is the second component analyzed as part of community well-being. The senior learners reported a high level of social capital. They have different social networks, some from their previous relationships and others from the retirement community. They meet with people inside their houses and outside (it could be in the retirement community or the broader community). In this study, the retirement community was the main promoter of social capital for the participants through a great variety of programs, as we noted in Chapter Four. The retirement community offers the conditions that allow residents to create new bonds and to develop high levels of social capital.

Balatti and Falk (2002) commented that the network of relationships of an individual can facilitate access to other resources of value such as ideas, information,

services, or favors. This process was very clear in this study. Learner participants have a solid network of relationships that they rely on. They trust their neighbors; they have people to ask for favors, they know that the people in their community will help them if they have any problem. They trust in the authorities. It does not mean necessarily that through the activities in the retirement community seniors develop strong bonds or meaningful relationships such as a husband or a close friend, but they have relationships that offer trust and security. This is especially important because they are not as independent or as able to do things that they used to (Atchley, 2009; Chodzko-Zajko et al., 2009)

Clearly, to have high levels of social capital is beneficial for the senior population. As we observed in the findings, and in the literature (Goldsmith, 2004, Nyqvist et al., 2013), seniors have to face the loss of their peers, the diminution of their health, and new challenges such as not being able to drive. When they can count on others, they feel relieved. Forsman et al. (2013) developed a study to analyze how social capital affects the well-being of older people, and they found that relationships are important for the mutual trust and sense of security.

Participants rely on their social networks for many things such as going to the hospital, asking for a favor, entertainment, and so on. Furthermore, these learners participate and receive the benefits of volunteer activities, such as rides, visits when someone is sick, baskets of goods when someone returns from the hospital, among others. They have a positive feeling about others, thinking that people are kind and fair most of the time. Furthermore, they participate in many volunteer activities organized by the retirement community, feeling part of it, and obtaining benefits from each other (both as a

volunteer and recipient of volunteer services). High levels of social capital may help to gain cost savings from reduced demand on health services and other services such as transportation, or caregivers.

As Nair (2014) and Powell (2014) mentioned, the increase of the senior population in the societies will require more services for health, housing, accommodation and so on. The senior learners of this study did not talk about if they use social welfare services from the government, and I did not ask about it. Nevertheless, I infer that the older adults of this study did not rely a lot on the social welfare for services (home care, meal deliveries, transportation, and so on). Not only because their socioeconomic level is high, but also because they have high levels of social capital which help to cope with their needs. Therefore, I think that they do not use public services, or they do not have to rely on their families. This is very logical because they live in a retirement community, and they pay for this type of comfort.

Ramlagan et al., (2013) developed a study aimed to investigate the relationship between social capital and health. They found that social capital was significantly associated to lower depression symptoms, better cognitive functioning, and higher physical activity. Moreover, high levels of social engagement may positively affect mental health. Coley et al., (2008) found in their literature review, an inverse relationship between social engagement and the risk of cognitive decline. Social capital offers many benefits for the senior population. Therefore, for this specific population, social capital is an important asset.

Moreover, McCabe et al. (2011) mentioned that happy people tend to be physically healthier, have greater self-control, are better able to cope with negative

situations, and are more helpful and prosocial. In this study, the learner participants were happy, and they said that through being active, they forgot their pain, or they do not think about it. So maybe this reduces the number of times that they see the doctor or improves their perception of their health.

Clearly, the learner participants of this study have elevated levels of subjective personal well-being and social capital, the main components of community well-being. However, from the results of this study, the learning institute was not the main promoter of those components. While I did not use the terms “subjective well” or “community well-being during the interviews with the participants, I asked questions about happiness, life satisfaction, and the participants’ social activities. The learning institute was valued as an important activity, but these participants linked these aspects of subjective well-being mostly with their faith, their activities, and their social connections; and the retirement community was the catalyst for social capital, not the learning institute itself. There could be many reasons for this, but the most obvious one is likely the structure of the institute itself. The majority of the classes are from one to four sessions, make use of lecture format, and are in classrooms that are far away from each other. Therefore, senior learners cannot develop friendships or interact very easily with other learners while they are at the learning institute. Further, the retirement community itself offers many activities with the clear intention of promoting bonds among the residents, such as through cookouts, providing tables for eating together, games, and many other activities. Hence the participants do not necessarily need to socialize at the institute, as they have many other places for socializing. Most of the participants are also involved in their churches, and they find joy and support within it. This set of findings is somewhat

different from the previous literature because learning institutes have been considered places that promote development and social interaction (Fernandez-Ballesteros et al., 2013; Fok, 2010; Narushima, 2008; Simone & Cesena, 2010; Swindell, 2002). While the institute analyzed in this study may promote the development of the learners, their emphasis was not on socialization per se. Hence, this study reveals that the structure and the curricula of a learning institute may influence the outcomes for its learner participants, particularly regarding social capital.

Promoting Mental Health and Well-being through a Holistic Course

In light of the above discussion on well-being it is time to analyze our last question of this research *“How do participating senior learners describe significant experiences in specific classes related to cognitive health and well-being?”* This section will discuss briefly the participation of the senior learners in the action research component of this study: a course for promoting cognitive health.

The purpose of doing research is ultimately to make a positive impact on society, Consequently, the course to some extent, was informed by an action research methodology, in that the course component part of the study had the specific intention of promoting change while the research is going on (Levin & Martin, 2007, Merriam & Tisdell, 2016), changes that can benefit the senior participants who were part of the study. From the standpoint, I altered the plan slightly every week on the basis of what participants’ reactions and experiences were in the prior class. The topic that I chose was cognitive health education, implemented as a primary preventive intervention. The reason behind my choice is that dementia type Alzheimer is the most common neurodegenerative disease in the senior population (Alzheimer’s Association, 2015;

Whitehouse & George, 2008), and it places enormous pressures on families, health-care systems, and societies (Mangialasche et al., 2012; Shineman & Filit, 2009).

Primary prevention interventions (as the name implies) are intended to prevent the condition from occurring. It is accomplished through education about the causes, the risk factors, and the protective behaviors. (Galindo et al., 2011). Unfortunately, the cause of Alzheimer's disease is not known yet (Alzheimer Association, 2014). As noted in Chapter One, there are different hypotheses, but the scientific community has not determined a specific cause. Consequently, I worked with different strategies that promote cognitive health, with the underlying intention of preventing cognitive decline or at least to delay its onset.

The course was aimed at teaching older adults about neuroplasticity, the scaffolding theory, and the cognitive reserve hypothesis (Fernandez-Ballesteros, 2013; Greenwood & Parasuraman, 2010; Heuninckx et al., 2008). It was designed holistically, in that each session included different knowledge, information, and activities intended to stimulate neuroplasticity and develop cognitive reserve. Seagull and Seagull (2005) noted that doing things differently makes additional neural connections. There are risk factors that may influence cognitive decline and other factors that may influence cognitive health (Erickson, Gildengers, & Butters, 2013; Srisuwan, 2013). Therefore, it is important to consider the multifaceted context of cognitive decline in order to prevent it.

As mentioned in Chapter Two, neuroplasticity is the ability of the brain to modify structure and function in response to external stimulation (Park & Bischof, 2013; Swartz, 2011). The Scaffolding Theory of Aging and Cognition suggests that the brain responds to degradation by reorganizing or creating neural scaffolds that serve as supportive

structures that preserve cognitive function (Park & Reuter-Lorenz, 2009). This theory postulates that more scaffolding is a direct consequence of learning experience, fitness, and training, and that scaffolding confers protection to the brain. This also explains the concept of cognitive reserve, which is defined as the ability to tolerate age or disease related changes without developing symptoms (Doraiswamy, 2012; Draganski et al., 2006; Meng & D'Arcy, 2012, Valenzuela et al., 2012; Valenzuela & Sachdev, 2005). Therefore, in creating the course, I assumed that the more protective activities, the more scaffolding, would likely result in more cognitive reserve. The purpose was that senior learners consciously promote behaviors that might be positive for their cognitive health.

The first symptom of Alzheimer's disease is a decline in one of more cognitive domains such as memory, language, visuo-constructional skills, conceptual thinking, calculations, and orientation. So, I included all the cognitive domains in the course, but also I worked with different ways of knowing. For that reason, the sections of the course were new information about the brain, meditation, cognitive stimulation, emotions, physical exercise, and social impact or legacy. As noted in Chapter Four, every section was valued as positive. For some participants some sections were more significant than others and having the opportunity to use so many ways of learning allowed them to be aware of their abilities and limitations. Some senior learners recognized that it was easier to draw their memories than make analogies, while others value meditation or easy physical exercises. The holistic part of the interventions was highly appreciated.

The senior participants in this study reported that they do not want to lose their mental abilities. Therefore, they highly valued the knowledge offered to them. They enjoyed the experience and were very committed to doing their homework and

participating. The intervention was effective in that the learner participants began to modify their behavior. It was not just about a repetition of a task; it was about understanding the positive impact that new and different activities may have on their cognition. Through learning, participants reflected about their own mental health and took an active role on it.

Given that there were no brain scans done, regarding the issue of neuroplasticity, this study cannot prove that these senior learners developed new neurons (neurogenesis) or more neural connections; however, this was not the intent of the study to begin with. Rather, the intention was to promote preventive educational initiatives for participants' cognitive health. To be sure, people do not always pay attention to preventive behaviors, because they do not find them helpful or important, or because they do not want to make the effort to change their lifestyle. They may not know the positive outcomes that a preventive intervention offers, but knowledge makes a difference and may promote changes. These senior learners were using the information, not just for their own future, but also, they shared the activities with friends and family.

The participants in this study mentioned that the course offered them hope; they recognized that in order to promote neural plasticity, they have to practice the activities frequently; if not the changes will not last. The senior learners reported that they were actively practicing the activities, even though they knew that there was no guarantee.

From the experience of the learner participants in the course, of course we cannot guarantee that they are not going to develop Alzheimer's disease or that they will have less cognitive decline than other older adults. The main intention of a primary prevention intervention is to avoid the problem in the future, and it is impossible to study the future

from the standpoint of the present moment, so it is impossible to test its efficacy at this point. However, there are some markers that may determine the success of the intervention. If people learn about the disease, and they change their behaviors for more healthy ones, then the intervention is potentially protective.

Therefore, the impact of the course itself is that the learner participants began using the knowledge and the activities for their own well-being in their own environment. Prior research suggests that in animals and humans the brain is able to change in function and structure, but it is not automatic (Johansen-Berg, et. al., 2012; Sampaio-Baptista et al., 2013). It requires specific stimulation, repetition, and time, and these older adults reported that they were completely committed to practice the activities that they learned in the course.

In this respect the findings of my study offer something slightly different than other studies. Tardif and Simard (2011) conducted a literature review exploring the efficacy of 14 cognitive intervention programs administered to healthy elderly participants. They found that nine out of fourteen studies targeted memory as the principal cognitive function to train; attention and executive functions were the other domains targeted. All of them reported improvements. However, the authors found that the generalization of the intervention programs to everyday life activities still remains uncertain. The findings of my study show something different; the senior participants practiced the activities in their daily life, at least for the period of time that they were in the course.

In this study there were some relevant conditions that may explain this difference with previous literature. In the first place, these older adults were in an educational

environment, and they learned about the neurocognitive mechanisms that underlie the activities that they were practicing. Senior participants understood the concepts related to neuroplasticity, cognitive reserve, and the theory of scaffolding. Therefore, the cognitive training activities, such as creating short stories based on images, memory activities, and mental math exercises, became meaningful for them and offered hope, so the participants decided to practice them. Another important condition is the holistic design of the training intervention. Instead of working with just memory or speed processing, the course offered a broad variety of activities for stimulating the brain (physical exercise, meditation, cognitive activities, emotions). Seniors become aware of their abilities and needs in an informal way, so they decided to work on the relevant activities. This study contributes to the literature suggesting that cognitive training may produce generalization in the participants' daily life if it is promoted through educational preventive interventions that include different ways to stimulate the brain. The next section analyzes the meaning that learning itself has for seniors.

The Importance of Ongoing Learning for Older Adults

As mentioned earlier, for the senior learners of this study, the learning institute itself is not the main source of subjective well-being (happiness and life satisfaction), or social capital (social networks and resources). However, it impacts their lives in some interesting ways.

First, learning produces enjoyment by itself. This is important because it is not just about the knowledge that senior learners gain—they can forget the information immediately after class. But these older adults feel that the process itself is enjoyable, and this sense of enjoyment is a source of motivation. Participants commented that

learning motivates them to go outside of their houses, to do something they enjoy. Inevitably, one might wonder is there something happening in their brains that stimulates neurotransmitters that results in feeling pleasure? Or does learning stimulate their hypothalamus or the amygdala, both of which are naturally related to emotions? Either of these conditions could account for the fact that while they might not always remember facts, they enjoy learning. Are there new neuronal connections made directly through the learning process? Seagull and Seagull (2005) mentioned that when nerve cells (neurons) are stimulated in new ways, there is an increased growth of specific chemicals (neurotrophins), which promote the maintenance and health of the nerve cells, acting as brain nutrients. The learning process itself may have a highly protective role for the brain. At least for these senior learners, the learning process itself has its own intricate benefits.

A second impact of the learning institute is that the knowledge learned offers opportunity for changes in senior learners' lives or for a better understanding of others. Knowledge allows these seniors to question their own values and to adopt different points of view. As noted in Chapter Four, one of the participants began attending her husband's church occasionally because she understood in one of the courses some of the "whys" of her husband's religion. Another senior learned how to grow violets, and she had a lot of them. In fact, people inside the community visited her to see her violets. One of the learners in my own class became more tolerant of her neighbor after reflecting on her life attitude. Senior learners choose the topics that they want, and they use the information in their daily lives. This is similar to Narushima's (2008) study, which explored the meanings older adults attach to their learning in a daytime-program in Canada. She found

participants “regularly practice at home and use what they learn in class in their daily life” (p.682).

A third impact of the learning institute is that it allows residents of the retirement community to feel connected with the broader community. This is particularly important for those who cannot go outside of the community by themselves because they do not drive anymore; participating in the institute is a way to be updated. It is a way to be in touch, and a way to feel part of the larger society. While the senior participants do not directly link learning as a main source for their sense of well-being, but it clearly provides a feeling of social inclusion and makes them feel less isolated from the outside world (Hebestreit, 2008).

A fourth impact of the learning institute is that through it these senior learners are participating in something valued socially: education. As North and Fisk (2012) note, in the economic world older adults are seen as less relevant and receive less mainstream exposure. But the learning institute allows them to do something considered positive in the society. For example, the teacher interviewed in the study said that he would choose a retirement community that offers cognitive activities over other retirement places that just offer leisure activities such as playing cards or watching television. The learning institute offers the opportunity to continue “being” part of education as one of the powerful activities (Watching TV, or playing games is not as valued in societies as much as learning).

Fifth, the learning institute helps the participants to cope with their challenges. Even though the socioeconomic status of the learners is high, some participants suffer similar difficulties that other older adults, such as loneliness, chronic diseases, and

vulnerability (National Council on Aging, 2012). However, for these seniors, the learning institute helps them to cope with their challenges. Some senior learners are not able to read any longer, but they can go to the institute and they are informed; they listen instead of read. Others may have urinary problems, or they are not able to travel anymore, but through the classes they revisit the places where they were before or visit new ones.

As noted earlier, learning and learning institutes are important resources for elderhood. Based on the literature, I had assumed that the learning institute would improve the community well-being of the senior learners, observed through subjective well-being and social capital. Alshebou (2010), for example analyzed the contribution that continuing education can make to society on the economic and social dimensions, and found that 80% of the learning participants' experiences were related to social benefits such as getting encouragement to work with others, and widening their social networks. Balatti and Falk (2002) explored how adult and community education contribute to the social capital of the communities within which they operate. They found that adult education providers were the catalyst of new social networks or connections. Hence, the work of these authors supported my assumption that the institute would improve community well-being. Furthermore, my assumption was highly related to my previous experience in México, where I saw that people developed new relationships from the institute.

The senior learners of this study did not link subjective well-being and social capital directly with the learning institute. No matter the source, these senior learners have high levels of the two components of community well-being. The experience of

seniors who attend the institute but do not live in the retirement community were not analyzed because all the participants of this study were residents.

Why these results differ from the studies mentioned earlier where education is associated with social capital? Why do they differ from my experience in México? I attribute this to the location, and the structure of the learning institute discussed earlier. In this study, the retirement community already promoted social capital through different programs and activities. On the other hand, the learning institute provided primarily learning, with its own new and particular benefits, as mentioned earlier. Hence, the learning institute and the retirement community in tandem seems like the perfect combination. The retirement community and the learning institute offer different benefits for these senior learners, and maintain certain independencies, but together, they offer many possibilities for having an enjoyable and positive elderhood for the senior residents.

A Cross-Cultural Perspective:

The USA and México

As I mentioned in Chapter One, I created and directed a learning institute in México, and I taught some courses. I am an international person, and hence interested in cross-cultural perspectives. While some of this is beyond the scope of this particular study, it is part of my interest and my life and work experience to compare the findings of this study in regard to one institute in the United States, with the learning institute in México and to understand the differences in cultural contexts.

The way that an institute is born will impact its life and its personality. The Mexican learning institute that I founded was sponsored by the government because there were no learning opportunities for seniors; it was planned as a social response to a social

need. Hence, the structure and the curricula respond to the Mexican seniors' reality. The institute in the United States emerges as another activity that seniors can do. The retirement community where is located already has many different programs (exercise, trips, lectures, etc.).

Moreover, the way that the institutes perform is very different based on the circumstances of each country. For example, the need of educational services for seniors makes the Mexican institute very popular. It does not need marketing; there are lines of seniors waiting to join the courses. Even though the courses are very long (14 weeks), older adults are regular attendees. In the USA institute, the staff members produce a beautiful course catalog that they send by mail to many seniors, and they prepare a ceremony where instructors present the courses. The institute has to compete with other institutions and churches who offer a variety of programs for seniors. Furthermore, the USA institute does not offer long courses because seniors tend to travel, so they do not want commitments for long periods of time. In México, the economy does not allow many seniors to travel as often as seniors in the USA.

In the USA learning institute, the courses have a great variety of topics; they can be related to religion, history, literature, music, and so on. In México, the courses have two different purposes. One is to provide knowledge that seniors can use to generate income, such as technology, photography, herbal medicine, Reiki, among others. The second purpose is to offer courses for health and pleasure such as human development, history, current topics, dance, and so on. In the United States the majority of seniors have retirement income or economic support from the government (Powell, 2014), so they are not looking for courses that can help them to improve their income. In México, many

seniors would like to learn new abilities or knowledge in order to compete in the labor market.

In both countries' institutes, instructors teach what they enjoy. This makes courses interesting and enjoyable for senior students. The structure of the institute influences the type of relationships seniors develop, and how the institute may impact their lives. In México, senior students share a lot of time together (around 64 hours per course), and in many cases, they develop bonds between them. Even though the school is relatively small and there is no cafeteria, they often arrive early or stay after class to talk. This is different in the USA institute where the longest courses are four sessions. The majority of the courses are one session or two. Usually, students come to class, listen to the instructor, and leave. Even though there are many comfortable booths in the hallways, and restaurants, they do not interact too much. This makes sense because they are not going to see each other frequently. Some students come with friends already, but they do not use the educational environment for socializing, while Mexican seniors do.

There are also differences in the culture. The Mexican institute promotes a lot of social activities, encouraging teachers and students to be a community. In the USA, it is different. Most of the courses are one to four sessions, so it is difficult to use the institution as a place to make friends or have a sense of belonging. Participants use them for learning primarily.

It is important to mention that many seniors in the USA belong to other communities, such as churches, or volunteer activities, and socialize within these institutions, while in México, most of the population is Catholic. In México, the structure and the activities of churches are very similar. Basically, there is Mass on Sunday, and

some churches offer other activities, but there is no competition between them. In addition, there is no culture of volunteers in México, while in the United States it is very common. Hence, USA seniors can share their knowledge or their abilities through different projects, while in México, seniors cannot. In the Mexican learning institute, at the end of each term, there are the “Journeys of Knowledge” where learners in each course present the knowledge acquired to the larger community. It is a conference type event where family members are invited to enjoy what the students have learned. The “Journeys of knowledge” are a way to reaffirm Mexican seniors’ identity and to improve their self-esteem. In the USA, seniors do that through volunteer activities.

One of the most dominant dimensions of cultural variation in the cross-cultural literature is the conceptualization of individualistic versus collectivistic cultures (Lykes & Kimmelmeier, 2013). Individualism is characterized by valuing autonomy and independence, whereas collectivism champions interpersonal ties and interdependence. USA culture is considered more individualistic and Mexican culture more collectivistic. This difference influences the way that learning institutes for seniors organize their courses and activities. The Mexican institute clearly promotes social ties and group activities. The USA institute offers courses where people do not necessarily get together if they do not want to. However, as observed in the results, meaningful relationships such as having a confidante or a family member nearby are important, no matter what type of culture seniors are from (Lykes & Kimmelmeier, 2013).

Based on the previous analysis, no one institute is better than the other. Each institution responds to the economic and cultural circumstance in which it is immersed. However, both have difficulties to solve, and therefore windows of opportunity. Here is

when comparisons become helpful. Later on the chapter, I will present a proposal for learning institutes. Currently, with globalization, the transformations of the families, and with the value of the young over other stages in life, seniors need services that can be strong and helpful to confront the new challenges within the society.

Implications for Theory and Practice

I am an adult educator, and I began this research process trying to understand better learning institutes that serve the older population. One reason is that the aging population is growing rapidly all over the world (WHO, 2014). Countries have less working people to support the economy and fewer caregivers for the oldest. Governments have fewer funds for social issues, but the rise in number of older people worldwide will lead to an expansion on demands for health, housing accommodation, and pensions (Nair, 2014; Powell, 2014). Therefore, services for older adults are an increasing need. The considerations of theory and practice can best be understood in light of globalization.

Aging in the Context of Globalization

Globalization transforms all dimensions of social life, including aging (Arxer & Murphy, 2013). There is a societal shift of values toward the material and the monetary in light of global capitalism (Söllner, 2014). Retirees are not producing materialistic goods, and the ones who work cannot compete with the specialized youth population, as a consequence, the society is alienating them (Nair, 2014; Powell, 2014). Seniors, uneducated, and minorities are outside of the market and have more difficulties fitting into these globalized societies. Adult educators are typically powerful advocates of social justice; hence, the needs of the senior cohort cannot be ignored.

Regarding care, developed countries are importing skilled care. They are bringing in young people to take care of older people (Nadash, 2014; Nair, 2014; Neilson, 2009). This mobilization deprives source countries of medical expertise and caregivers, and in many cases, the migrants suffer from low wages and poor working conditions. Furthermore, the social conditions of those left behind are affected too. Seniors and families are losing the social support and the disruption of kinship obligations across generations (Germán-Bes, Hueso-Navarro, & Huércanos-Esparza, 2011; Neilson, 2009).

With globalization and the population trends of an aging population the world over, all countries will need to tend to the physical and the emotional needs of an aging population. In a global context, many people are living their third age in cities and countries where they have not been born or grown up. This is the reality of our current world.

No one government will be able to cover the needs of the population if they do not prepare a path for responding to the changes. Given that we are facing an international problem, it is imperative that we think globally. To continue with the same activities from the past is not enough. It is important to innovate, especially in education, and the findings of the study have implications for the theory and practice of adult education, for retirement communities, for cognitive health in an aging population, and for senior learning institutes overall.

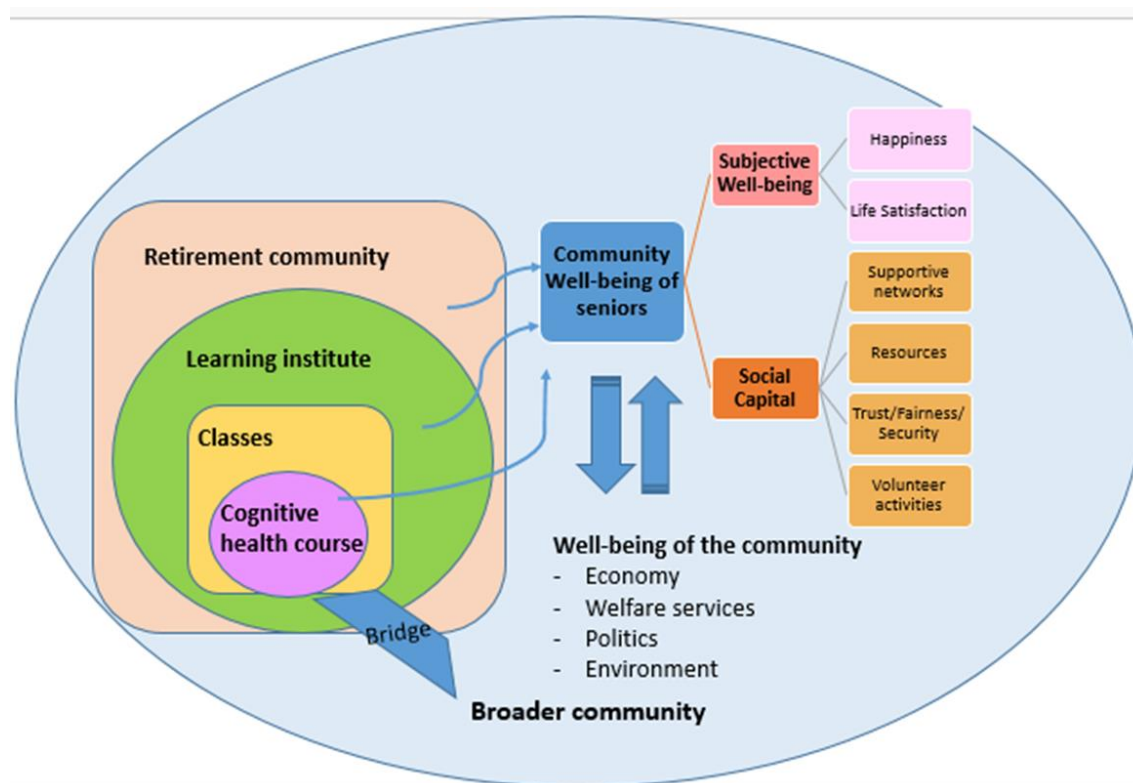
Implications for Adult Education: Towards a Model for Education for Seniors

Adult Education is a broad field of study, and adult educators work and educate in a wide array of contexts. They can be facilitators of changes in a community, advocates for social justice, devotees for better employment conditions, and promoters of personal

growth (Rose & Ross-Gordon, 2010). Adult education covers all adults, from college and beyond, yet, the education of older adults is given only limited consideration in the adult education literature.

This study provides important information for adult educators who should be aware of the positive impact that education may have in the senior population. First, the educational offering for older adults should include the notion of community well-being. While Merriam and Kee (2014) discuss community well-being, and the complex nature of the term, the authors do not present a clear definition. This study, along with prior literature (Cox et al., 2010; Murphy, 2014; Wiseman & Brasher, 2008) offers some insight about the complexity of community well-being and the potential role of a learning institute in relation to community well-being. This is depicted in Figure 1 below.

Figure. 1 Relationship between the learning institute and community well-being.

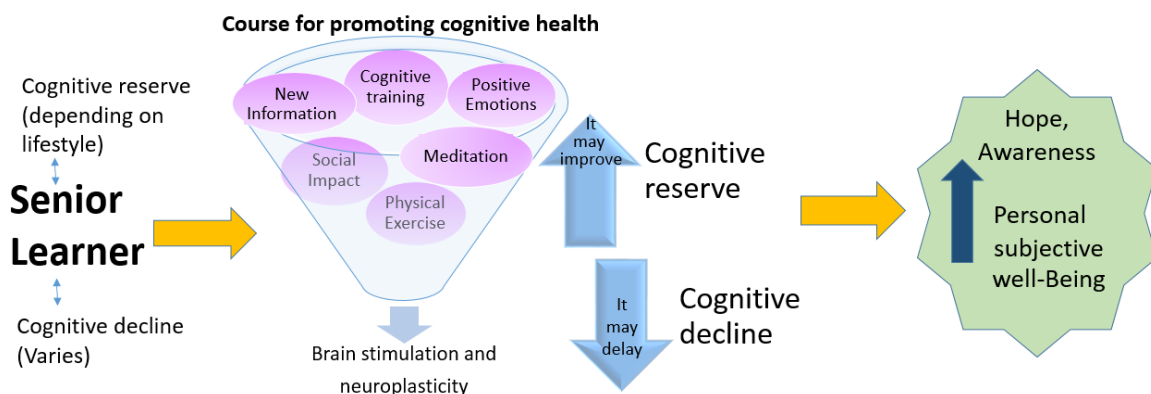


In Figure 1, community well-being implies different relationships. It is related to the perception of the members of a specific community but also to the circumstances that people experience in the community. There is no one direction for the relationship; the members affect the community and the community affects the members. So changes in one may have effects on the other, positive or negative. Learning institutes may be a bridge with the broader community for people who live in a retirement community. Moreover, learning institutes may be good institutions for promoting community well-being among independent seniors who do not live in retirement communities or nursing homes. Either way, community well-being has to be promoted, it is not automatic.

Figure 2 below depicts the underlying assumptions that guided the course for senior learners. Seniors have some cognitive decline due to normal aging, though it may not be noticeable, and it does not always affect their independence or their quality of life (Mangialasche, 2012). Senior learners also have some cognitive reserve. The level of brain reserve varies based on the seniors' lifestyle. More years of education, physical activity, and mentally stimulating activities are associated with greater brain reserve (Stern & Munn, 2010; Valenzuela et al., 2012). Hence, to enhance cognitive reserve, it is helpful if adult educators promote educational programs for the senior population.

As depicted in Figure 2 below, the holistic course included the following components: activities that provide new information, cognitive training, positive emotions, meditation and spirituality, and physical exercise. Findings show that the seniors who participated in the course for promoting cognitive health reported awareness about their cognitive abilities and a positive attitude to preserve them. They practiced different activities and developed hope that they may improve their cognitive reserve and hopefully to delay cognitive decline. The hope and awareness developed by senior learners increased their subjective well-being, which is a component of community well-being. This part of the model is represented in Figure 2.

Figure 2. Cognitive health and subjective well-being in senior learners



This study suggests that educational settings are excellent venues for promoting cognitive health among older adults; formally through specific programs like the course presented in this research; and informally through the general courses of a learning institute. Hence, adult educators must consider the importance of educational programs for senior learners. Learning institutes and other institution can offer learning programs may have a huge impact as promoters of cognitive health, cognitive reserve, and neuroplasticity, especially for healthy older adults.

Furthermore, the organizational structure, the curricula, and the educational strategies for learning institutes influence the outcomes of the learner participants. Consequently, they should be planned by adult educators according to the specific circumstances of the senior population. Globalization and local needs should be considered too while planning educational programs for senior learners.

Though in most countries around the world governmental priorities do not provide a lot of monetary support for education for older adults (Findsen & Formosa, 2011), learning institutes continue growing. As noted earlier, many countries have

services and educational programs for older adults, which are accessible primarily to those who are more educated.

At first glance, it appears that learning institutes for seniors support primarily those from a more privileged demographic: white, educated, and with high socioeconomic status. Learning institutes indeed do offer benefits to privileged seniors. However, in the review of the literature presented in Chapter Two, Wight et al. (2002) found that the seniors who showed more benefits in terms of cognitive function in later life from participating in learning institutes were those with less educational attainment. If learning is a pleasure, as was the case for the seniors of this study, it is likely that learning is a pleasure not just for those who are educated or have been in formal education processes, but for any senior. The problem is that currently, learning institutes do not seem to meet the needs of those with less privilege, or are marginalized. One cannot necessarily assume that there are not educational opportunities for older adults in these communities in some other form, but participants in senior learning institutes seem to be of a more educated and privileged demographic.

Adult educators must think about the role that learning institutes may have into the communities. In the learning institute analyzed I did not see senior learners who were African-American, I could not recognize any minority, not in the class that I taught or in the one that I was as a participant. Regarding education for seniors, China could be, in this moment, the best example for the world. Chen (2015) notes that in China the aged have the right to continue education, and this right has to be protected. The Chinese government include education as “one of the basic public services” (p. 1), and it has a specific budget for learning institutes for seniors (CAUA, 2015). Like in China, learning

should be a right for everyone, not only for the ones who are privileged by money, race, living conditions, access to health, and so on. Adult educators must promote learning institutes as a right for everyone.

As adult educators, we should be aware of the new realities that seniors face and act as advocates for all of them. Learning institutes for seniors are services that offer many possibilities for the older population, such as learning and cognitive stimulation, social development, inclusion, and the opportunity to participate actively in the construction of knowledge (which reaffirms them and improves their self-image). Different segments of the society will need different knowledge and skills, and these institutes may respond positively to the specific needs of a diverse population. Therefore, learning institutes for older adults should be promoted as a human right and a real possibility for every person in the elderhood stage.

Implications for Retirement Communities

The study also has implications for retirement communities. The discover that the learning institute plays such a big role for the residents of the retirement community, prompted an examination for literature about retirement communities that have an independent learning institutes inside their installations, though none was found. What this study suggests is that learning institutes have an important role for seniors who cannot go outside of the retirement community by themselves.

This discovery is a testament to the beauty of qualitative research: one never knows what one will find. Looking deeply into a system through a case study allows researchers to see new phenomena not addressed before. Also, as Yilmaz (2013) said,

through qualitative research, researchers gain insights not possible using other types of research.

This study opens a new venue for retirement communities. A learning institute can be an excellent marketing strategy for retirement communities. Through the learning institute, the retirement community is inviting people from outside to have interaction with people from inside the community. Visitors come and observe what is happening inside and see how people live, and they may decide to take the same path (Campbell, 2015).

It is a way to share the installations and the dynamics inside the retirement community in a natural and honest way (Bohle et al., 2014). People can judge how the life inside is, and be in touch with it. Furthermore, in the learning institute, non-residents are going to be with residents and they can feel more connected with the retirement community because of their participation in the classes. If older adults are able to build new social connections with the residents, this may help them to make a decision and to have a smooth transition when the time to leave their home is close. Potential residents receive information about the institution without feeling pressure or without the need of a seller.

But the benefits are not only for the retirement communities as institutions, there are benefits for the population too. For the population who lives inside the community, the institute represents a tool for coping with challenges, and a bridge with the broader community. For the population who lives outside of the retirement community, a learning institute makes learning services (with affordable fees) accessible to more population. It offers a solid organizational structure that is not as vulnerable as institutes managed only

by volunteers or without enough financial resources. So, the quality of the learning experience can be better. It seems that learning institutes inside retirement communities are win-win options.

Implications for Cognitive Health

Primary preventions for promoting cognitive health offer the opportunity for seniors to work actively on their own health. It allows them to be aware of their needs, their possibilities, and to feel hope in the future. The participants from this study enrolled in my course because they wanted to work with their cognitive abilities. The learners knew about Alzheimer's disease, and expressed clearly that they wanted to maintain their sharpness as long as possible.

During the course, the participants were working with the goal of creating new networks for the brain, as well as cognitive reserve because they understood the concepts and the research behind the activities. The intentionality of the participants of maintaining their cognitive health may have positive outcomes. Whitehouse and George (2008) mentioned a study supporting the process of cognitive reserve as a way to compensate brain pathology. In their study, elderly persons still functioned normally even though they presented high concentrations of plaques and tangles in their brains, which is considered the main pathology of Alzheimer's disease. This is explained by cognitive reserve (Hill, 2013; Landau et al., 2012).

Through specific educational interventions seniors practice activities that may help them to develop cognitive reserve. The interventions may be more protective if they include different ways of knowing because seniors may find some activities more

interesting and meaningful than others. Holistic interventions are suggested because the physical and mental abilities of older adults are very different.

Implications for Learning Institutes and for the World

The development of community well-being, through happiness, life satisfaction and social capital may be an answer for the challenges that the normal process of aging entail. With the global population trends, and the inverted pyramid, seniors will not have many people around them. Their health will decline due to the normal process of aging. Children and family members will have to decide between caring for their seniors or supporting them economically in paying others to care for them. So community well-being may be a very important asset for older adults.

In this study, the participants have high levels of subjective personal well-being and social capital. They have the joy of having good lives, they have resources, and the benefits of the learning institute. So, they are happy and satisfied with their lives. Moreover, these senior learners live in a retirement community that offers many opportunities to develop social capital and to enjoy its benefits. However, not all older adults have the money for living in a retirement community. Therefore, there is a need for institutions, which intentionally promote community well-being.

The main point is how to promote community well-being and make accessible these benefits to more people, and how to promote happiness and supportive social networks. Not having significant relationships, such as those that we form with our family members, or with very close friends, was difficult for some participants—especially for those who do not have any relatives living close to them. They expressed that it is something that makes feel sad, even though they have many things in their lives.

It is difficult to develop social connections without an institution, without a physical space to share ideas and to see other people. But it is very costly to create retirement communities for all the population.

So based on my previous experience and the literature, I still believe that learning institutes are a good option. It is possible to work to transform these urban societies into new ones, where the neighborhood recovers the duty of caring for each other. Hence, in the last part of this section on the implications for theory and practice, I propose a model for the creation of ideal learning institutes for older adults.

Suggestions for Learning Institutes for Older Adults

The proposal is to create learning institutes that intentionally promote social capital and subjective well-being among seniors. From this study, one can observe that social capital has a protective effect in seniors because it allows them to access to more resources such as having a ride to the hospital, being a volunteer, having events to attend, and so on. Through sharing responsibilities and helping each other, people may rely less on social care; it does not matter if it is paid, such as the retirement community, or from the government. Also seniors feel confident that they are or will be cared for if needed.

Based on the literature and the findings of this study, it is evident that seniors enjoy learning and they are open to new and different courses. So, it is important to overcome the challenges and make them available for everybody. Every country should consider education for seniors as a social investment, especially when the world population is getting older. For that reason I am suggesting this proposal, and offer here several key components including attending to issues of formation; governance; goal clarification; educational strategies; and curricula and structure.

Formation. For the formation and governance of a learning institute, I suggest that a hybrid structure is likely to be the most sustainable. Learning institutes could be created under the umbrella of a solid institution that sponsors them, such as a university, a government or a retirement community. The sponsor could offer independent physical space, and a specific budget for the learning institute (staff and shared services). There will be a win-win relationship, where the sponsor gains recognition and presence into the community for a reduced cost, and the community has a good service for its senior population.

Governance. The institute could be part of an institution, but ideally, it has to have some autonomy in its governability. I suggest a board of trustees who can be students, teachers, or people from the community. They may be elected through an assembly and have a specific number of years to serve. Hence, such a learning institute would not need to depend totally on the politics of the sponsor institution.

Ideally, the learning institute would receive economic support from the sponsor institution (building, sharing services, and staff); however, it is preferable that each institute operates on a sustainable plan. The fees paid by the senior students ideally would be enough to pay the instructors and a portion of the shared services. No matter how old are they, ideally instructors should have the opportunity of being paid. Furthermore, there should be a scholarship system for those senior learners who require discounts or who cannot pay the fees. Hence, the institute becomes affordable, but at the same time sustainable.

Goal of community well-being. Learning institutes for older adults should offer educational opportunities as their main service, but preferably, they should include in

their philosophy or goal statement something about community well-being. Learning institutes may promote social programs, which dignify the seniors' image and promote social inclusion. Moreover, learning institutes have to reach educated and uneducated population, privileged and unprivileged, religious and non-religious, and in general, they should be available and offer something for everyone

Furthermore, the learning institute will promote programs that allow senior learners to create bonds, trust in each other, and to have a community that they can serve and rely on. Ideally, such programs would also offer intergenerational events. Some will be academic, where learners can share the learning acquired, through the institute or through their life, with the broader society. Other intergenerational events will be for improving the community, such as races, health fairs, or cultural gatherings.

If possible, the staff of such an institute would promote outreach activities with the local community, and be part of international associations of U3A. This structure could potentially promote and maintain best practices to teach seniors, but at the same time, to respond to the needs of the local older adults.

Educational Strategy and Training Instructors. In an ideal situation, instructors should be provided with an orientation to the learning institute and some training on working with senior learners. The learning institute should have as an instructional approach where teachers know the best teaching techniques for seniors and promote critical thinking (Formosa, 2012). There is also a need to use more than one way to teach because some seniors may not hear, others may not see, or move very well, and teachers have to be aware of it.

I suggest that learning institutes should allow instructors to teach what they love the most. But they should also encourage teachers to promote community well-being. Many seniors face the loss of friends and family and the separation from the labor market, therefore community well-being could be a helpful resource. Probably, not all the seniors will need it, but it will not affect them negatively.

During training, instructors would receive information about educational techniques for seniors (geragogy), and about community well-being, then they can become promoters of happiness and social capital within their classes. In order to obtain that, all the teachers must receive induction training and courses about best teaching practices every term and about the importance of community well-being. Teachers should know the characteristics of their students, and have the best techniques to catalyze their capacities instead of being focused on their disabilities. Teachers are the powerful soul of any educational institution.

Curricula and Structure. For the curricula, ideally, each institute should have a broad variety of courses. I suggest four main categories: 1) courses for leisure such as chemistry, art, religion, poetry, history, and so on; 2) courses that allows them to generate their own income like photography, life coaching, reiki, among others; 3) courses for growth and development for example positive psychology, social impact and legacy, brain stimulation, dance, meditation, or tai-chi; and 4) courses for staying updated related to technology, current topics, or changes in policies related to aging.

There should be short courses of one or two sessions (lecture type) and longer courses of 10 to 15 sessions where people can get the information in more depth.

Through longer courses older learners can have a sense of belonging and the opportunity

to create social bonds inside the institute. The majority of courses should be in person, because of the intentionality of promoting supportive networks. But, some of them can be online for those seniors who cannot come to the institute but enjoy learning. Moreover, some courses should be serial; then seniors can get specialized in one topic. Seniors can take the courses that suit them best.

The proposal presented in this section offers suggestions for ideal learning institutes; however, every learning institute needs to be contextualized within the specific geographical community that it will serve, and some of these ideas may work for some communities, but not for others.

Limitations and Implications for Further Research

The results of the study provided new information about learning institutes. The majority of the findings offer implications for improving the life of older seniors. However, like any other study, there were limitations that create opportunities for future research.

Of course, one of the limitations of the study (which is also a strength) is that the study only examines the case of one particular learning institute, and the learners within it. This is obviously dependent on the cultural and institutional context of the local area. The purpose of qualitative research (Creswell, 2009; Merriam & Tisdell, 2016) is to explore the particular in depth. This study did just that, and provides a window into the systems of one learning institute and the experiences of learners within it in depth. But it is limited to one case. Hence, future studies of other learning institutes in the US and other contexts would be helpful.

In spite of exploring the particular in depth, a second limitation of this particular study overall was the inability to have more people from the broader community (non-residents) as part of the study. There were non-residents in my course but they were not in both courses, so they did not meet the inclusion criteria for this study. The comparison between the experience of residents and non-residents was not addressed.

A third limitation (and strength) is that the learning institute was inside of a retirement community, and the retirement community plays a big role for developing community well-being. Hence, we do not know the degree to which a learning institution itself may promote community well-being. However, because of the location, I could see other things that I have not observed before in the literature, like the meaning that learning and learning institutes can have for senior residents who live in a retirement community.

This study contributes to the body of knowledge regarding education and community well-being, analyzed through happiness and life satisfaction, and social capital. For future research, it would be important to analyze community well-being in institutes that are not part of retirement communities that have so many activities for senior learners. Furthermore, it is important to review more institutes in order to understand better the process of learning as a pleasurable activity by itself.

From the course for promoting health, it would be interesting to develop a longitudinal study for analyzing how long the changes in attitude and behavior last after the course, among the senior learners who took it. Moreover, in a longitudinal study it would be important to analyze if the participants develop cognitive decline or not based on their perception, but also based on cognitive tests.

The changes reported by the senior learners during the course may be considered transformative. Hence, it would be exciting to develop a new study in the light of the Transformative Learning Theory.

Another line for research is to try the holistic course for promoting cognitive health in a larger population (quantitative study) and to see if seniors have the same engagement and results that the senior learners from this qualitative study had. Furthermore, it will be interesting to correlate the impact of the course for promoting cognitive health with neuroimaging data.

Finally, another important venue for research is to put in practice my proposal and to see if learning institutes, with this structure, can promote community well-being and its benefits among older adults.

Final Reflections and Closing Statements

Doing this doctoral work and this dissertation project has been a journey of discovery. It has been very interesting to observe a phenomenon, education for senior learners, in two different countries and cultures. It is one that has come about through the beauty of examining the particular in depth, which is a hallmark of qualitative research.

Learning institutes for older adults began just 40 years ago (Formosa, 2014). There are many things that we can improve as educators, especially because learning institutes have a wide variety in the age of the senior learners. The range is from 55 years old to 90 and because of that, there are big differences in abilities. Hence, learning institutes have to be well planned and deserve specific attention from adult educators.

Education processes are informative, but at the same time formative. No matter how old an individual is, we all are constantly changing, and through education we may

become a better person or improve our life conditions. Community well-being can be an important tool, especially for older adults, and it can be promoted through learning institutions. Education for senior has to be considered as an important topic for the future, given that the majority of societies in the world will have more older people than before.

Furthermore, I find working with seniors is a great pleasure, and working with the seniors in my class was extremely rewarding. Every class, I was amazed about the commitment and the effort that learners had, amazed by the things that they did in their lives, amazed about the things that I was learning, and amazed about the caring and kind attitude that seniors had in my class. For me, to hear the music that senior learners choose, and see them moving their arms from one side to another singing loud was terrific; to see them enjoying the activities and preparing a class for their classmates was exciting and rewarding, to see them helping the oldest or the ones who had difficulties was a very positive experience. To work in educational processes with the senior population is very gratifying.

People change when they want to, no matter how old they are. Connie said, “probably I was not doing anything because I am sad, or I am mad because I am here [new apartment], but I think that I can change that [her attitude].” Educational experiences promote reflection, and with that, people have the opportunity to decide what they want for their life. I believe that if seniors are happy and satisfied with their lives, and they have high levels of social capital, that helps them to cope with their challenges. This sense of community well-being will be reflected in the well-being of the community where they live. Community well-being implies benefits for older adults personally, but also for the broader communities where they live. If, as communities (neighborhoods,

villages, cities, and countries), we promote community well-being, we all are going to have more resources for coping with the challenges related to globalization and the aging trends.

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Appendix A

Course Description/Invitation for Participants

Brain Fitness

Instructor: Ms. Patricia Aguilera

Four weekly sessions from 9:00 am to 11:00 am

Enrollment Limit: 15

Brain fitness is a course designed to prevent cognitive decline in an exciting and interesting way. Participants will stimulate their brains through mentally and meaningful activities such as memory practices, visual exercises, learning activities, and focusing techniques. It is a different and new concept that participants will enjoy. The course is based on brain plasticity, an adaptive mechanism to compensate for lost function and/or to maximize remaining functions.

Brain Power

Instructor: Ms. Patricia Aguilera

Four weekly sessions from 9:00 am to 11:00 am

Enrollment Limit: 15

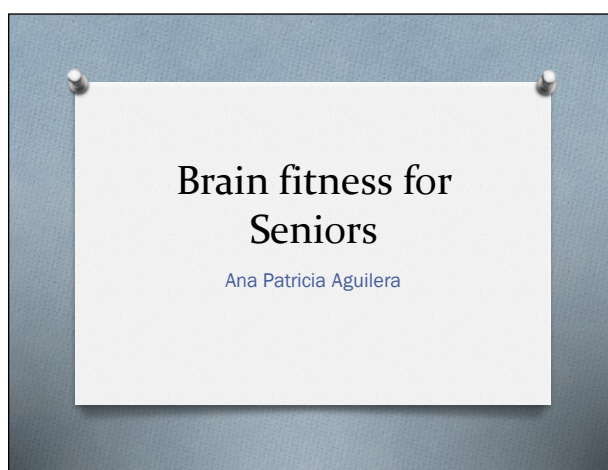
The course presents different activities which are part of a course for preventing cognitive decline. This course will include various types of cognitively demanding tasks and creative projects in order to stimulate the participants' senses and their brains. These activities will be developed in a respectful, holistic and friendly environment. It is recommended to participate in Brain Fitness first, but is not required for this course.

Appendix B

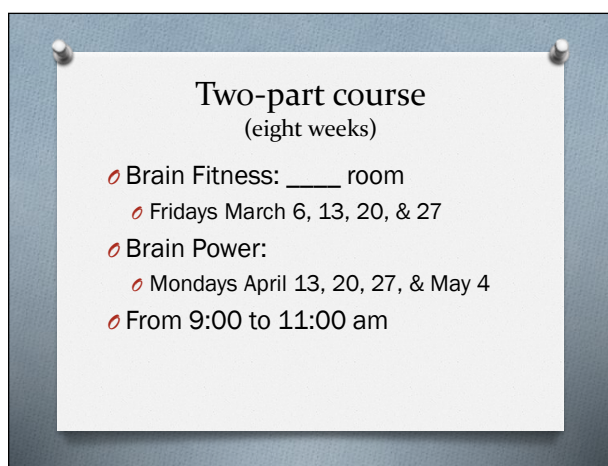
Example of a Two-Hour Session

Holistic Course for Promoting Cognitive Health

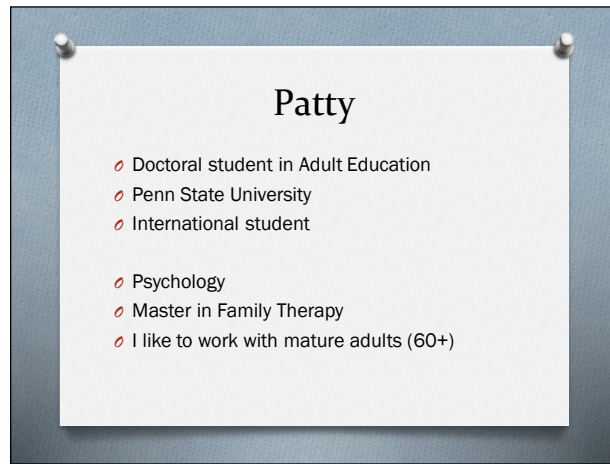
Slide 1



Slide 2



Slide 3



Patty

- Doctoral student in Adult Education
- Penn State University
- International student

- Psychology
- Master in Family Therapy
- I like to work with mature adults (60+)

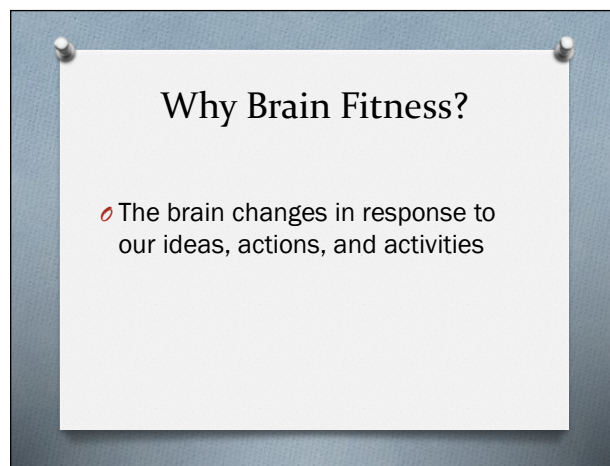
Slide 4



Remember

- Start where you are
- Use what you have
- Do what you can

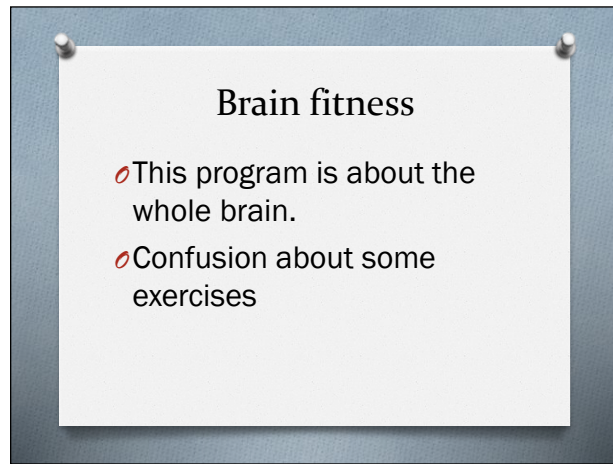
Slide 5



Why Brain Fitness?

- The brain changes in response to our ideas, actions, and activities

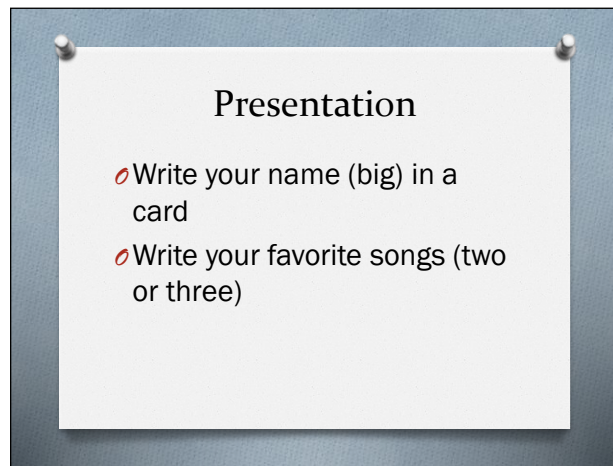
Slide 6



Brain fitness

- o This program is about the whole brain.
- o Confusion about some exercises

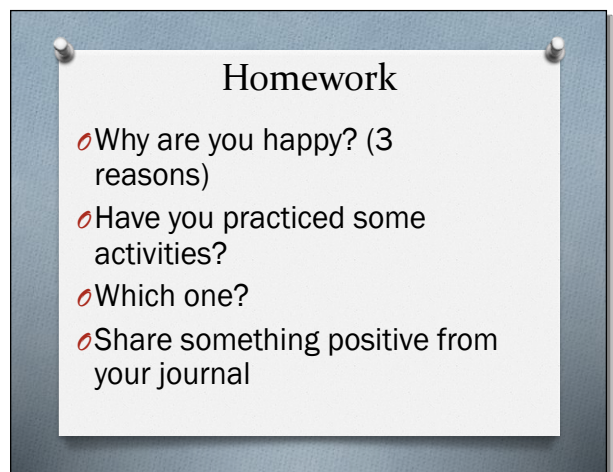
Slide 7



Presentation

- o Write your name (big) in a card
- o Write your favorite songs (two or three)

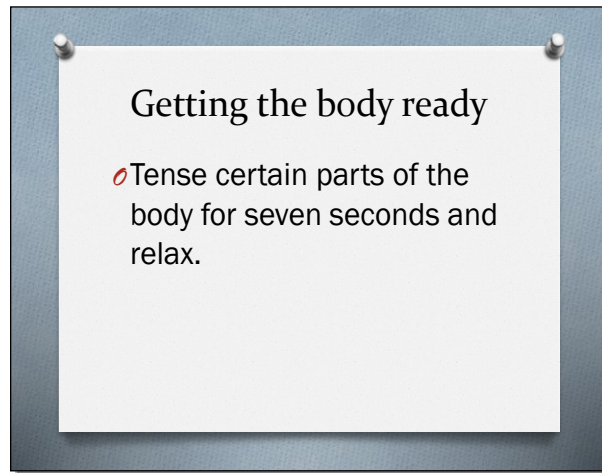
Slide 8



Homework

- o Why are you happy? (3 reasons)
- o Have you practiced some activities?
- o Which one?
- o Share something positive from your journal

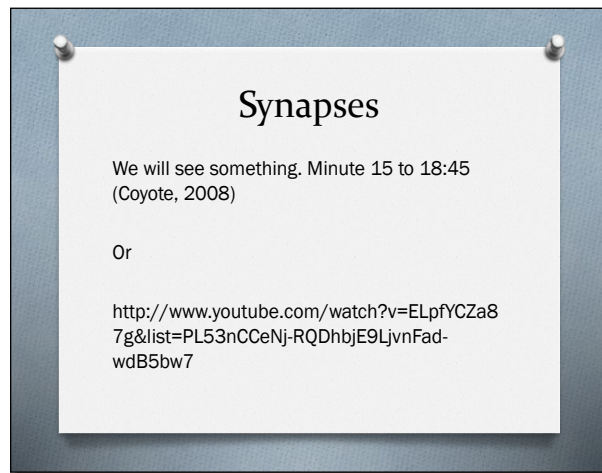
Slide 9



Getting the body ready

- o Tense certain parts of the body for seven seconds and relax.

Slide 10



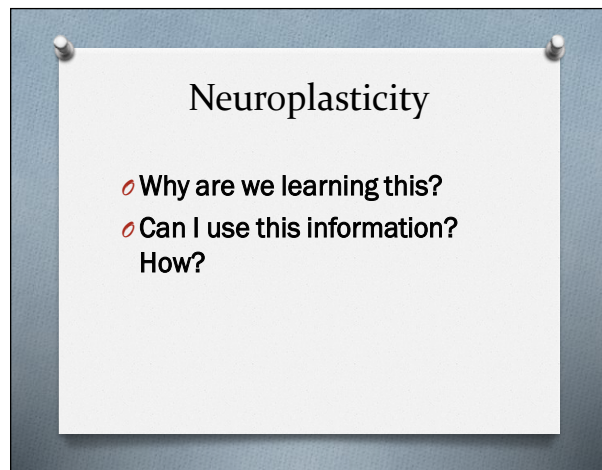
Synapses

We will see something. Minute 15 to 18:45
(Coyote, 2008)

Or

<http://www.youtube.com/watch?v=ELpfYCza87g&list=PL53nCCeNj-RQDhbjE9LjvnFad-wdB5bw7>

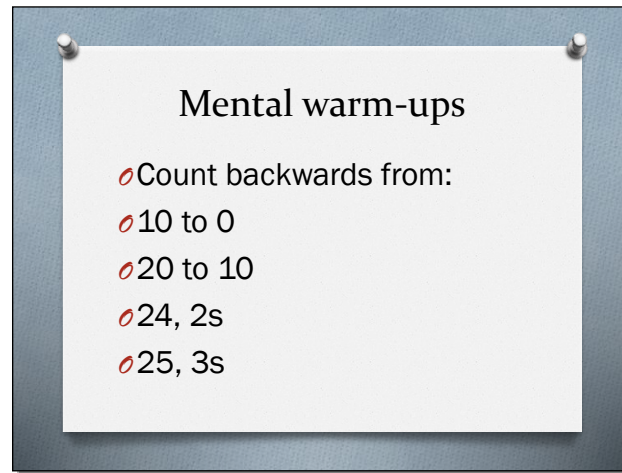
Slide 11



Neuroplasticity

- o Why are we learning this?
- o Can I use this information?
How?

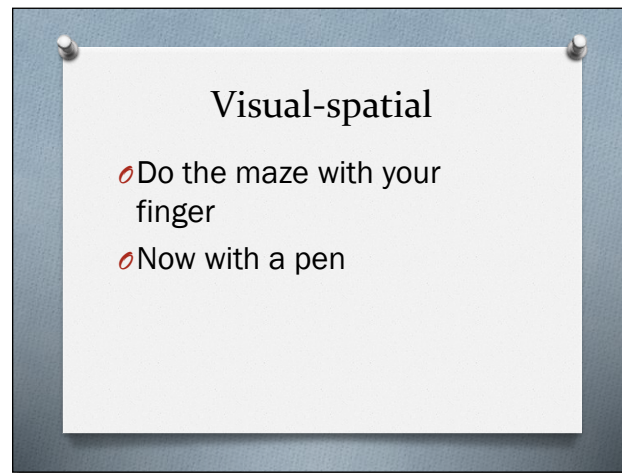
Slide 12



Mental warm-ups

- o Count backwards from:
 - o 10 to 0
 - o 20 to 10
 - o 24, 2s
 - o 25, 3s

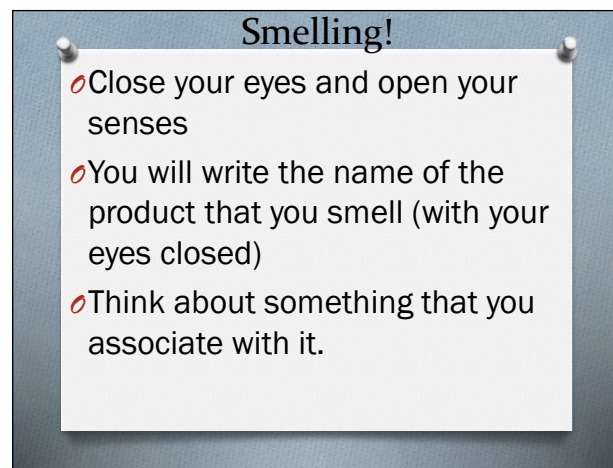
Slide 13



Visual-spatial

- o Do the maze with your finger
- o Now with a pen

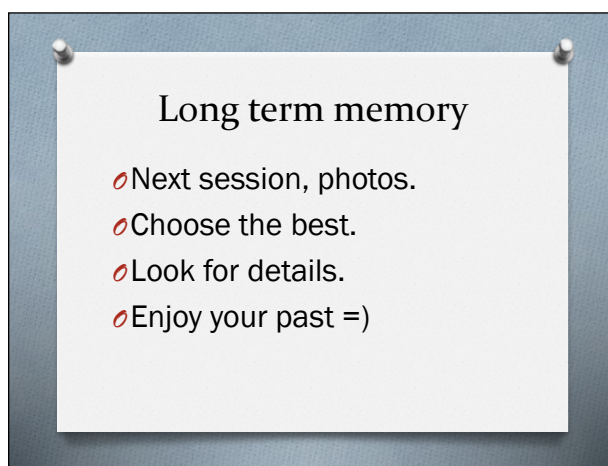
Slide 14



Smelling!

- o Close your eyes and open your senses
- o You will write the name of the product that you smell (with your eyes closed)
- o Think about something that you associate with it.

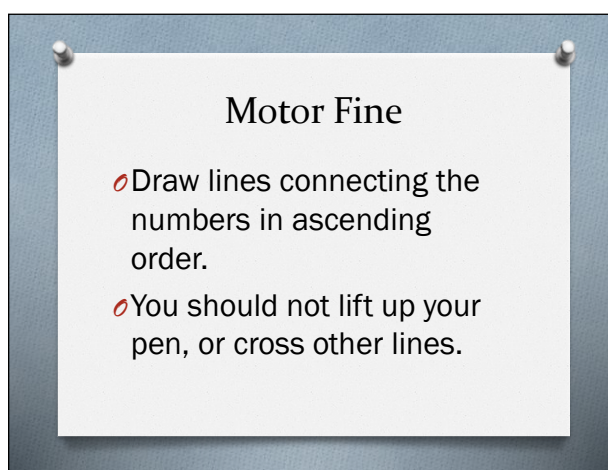
Slide 16

A blue-bordered box containing a white sticky note with two silver pushpins at the top corners. The sticky note has the title "Long term memory" and a list of four items, each preceded by a red circle with a diagonal slash.

Long term memory

- ◌ Next session, photos.
- ◌ Choose the best.
- ◌ Look for details.
- ◌ Enjoy your past =)

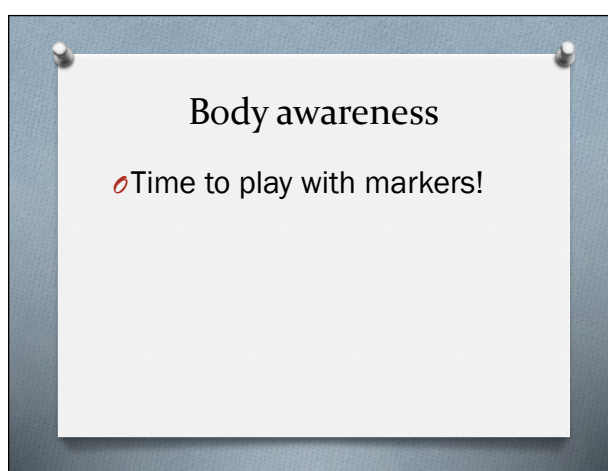
Slide 18

A blue-bordered box containing a white sticky note with two silver pushpins at the top corners. The sticky note has the title "Motor Fine" and a list of two items, each preceded by a red circle with a diagonal slash.

Motor Fine

- ◌ Draw lines connecting the numbers in ascending order.
- ◌ You should not lift up your pen, or cross other lines.

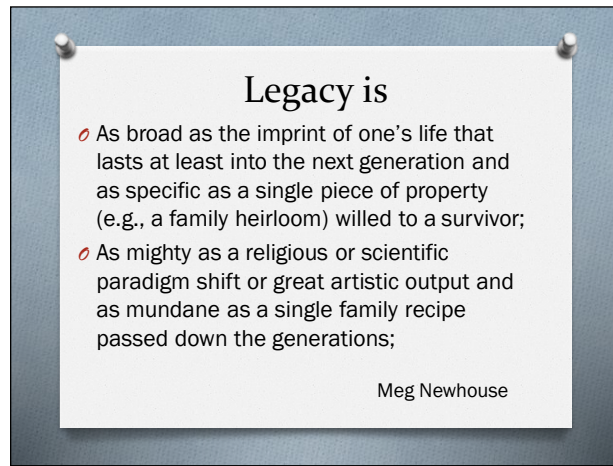
Slide 19

A blue-bordered box containing a white sticky note with two silver pushpins at the top corners. The sticky note has the title "Body awareness" and a single item preceded by a red circle with a diagonal slash.

Body awareness

- ◌ Time to play with markers!

Slide 20

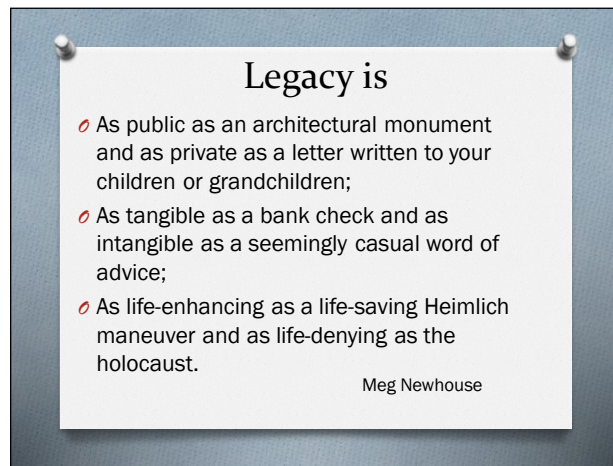


Legacy is

- As broad as the imprint of one's life that lasts at least into the next generation and as specific as a single piece of property (e.g., a family heirloom) willed to a survivor;
- As mighty as a religious or scientific paradigm shift or great artistic output and as mundane as a single family recipe passed down the generations;

Meg Newhouse

Slide 21

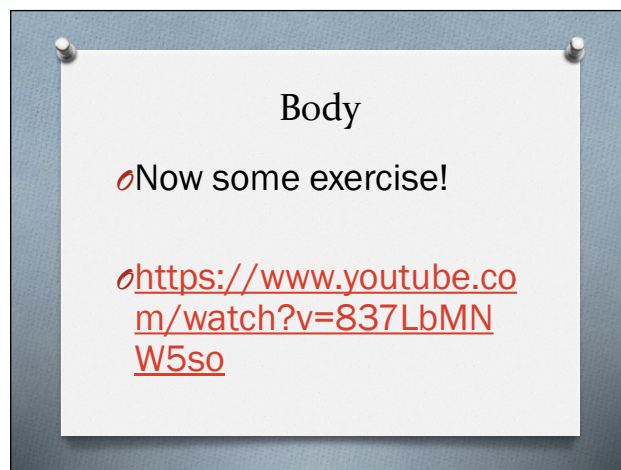


Legacy is

- As public as an architectural monument and as private as a letter written to your children or grandchildren;
- As tangible as a bank check and as intangible as a seemingly casual word of advice;
- As life-enhancing as a life-saving Heimlich maneuver and as life-denying as the holocaust.

Meg Newhouse

Slide 22

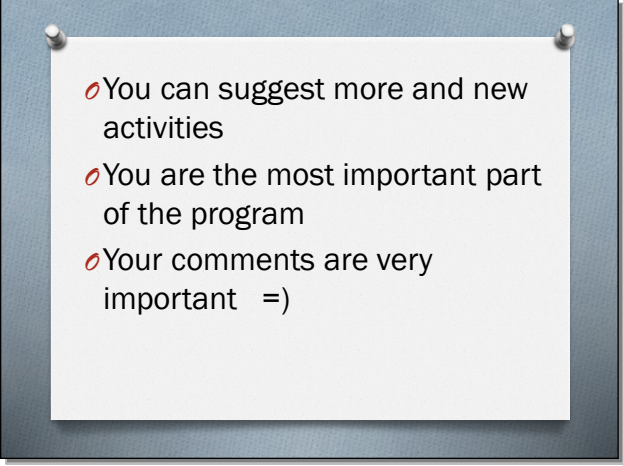


Body

◦ Now some exercise!

◦ <https://www.youtube.com/watch?v=837LbMNW5so>

Slide 23

- 
- A blue textured rectangular frame containing a white paper with two silver pushpins at the top corners. The paper has three lines of text, each preceded by a red circle with a diagonal slash.
- o You can suggest more and new activities
 - o You are the most important part of the program
 - o Your comments are very important =)

Slide 24

Homework

- 
- A blue textured rectangular frame containing a white paper with two silver pushpins at the top corners. The paper has the word "Homework" centered at the top, followed by a list of six items, each preceded by a red circle with a diagonal slash.
- o What am I thankful for? (3 daily)
 - o Think about legacy
 - o Write in your journal (new things, memories, activities, important things, poems, changes, and so on)
 - o Come with 3 to 5 photos
 - o Ask for a favor
 - o Do new things!

Appendix C
Critical Questionnaire 1

Reflection

Instructor Patty Date / /

The most important things that struck me in the course overall are (at least three):

Something that I will practice or share:

Do you have any suggestions to the instructor?

Overall, how did you rate this course?

Excellent	Very good	Good	Satisfactory	Non- satisfactory
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Comments

Appendix D

Critical Questionnaire / Final Reflection

This is a course created for preventing cognitive decline. It is the first time that has been offered. I would like to have your help in order to improve it and help others.

1. The most important things that struck you in the course overall are (at least three): _____

2. Did you do something different or notice any change in yourself through participating in this course?

3. Something that you will practice or share (even when you won't be in the course): _____

4. Please put a number on each section based on your preference

1	2	3	4	5
I didn't like it	Neutral	I like it	Very Enjoyable	Enjoyable and helpful

() New information (information about the brain) Why?

() Emotions (positive training and loving ourselves and others). Why?

() Meditation (techniques to be focused and attentive). Why?

() Cognitive stimulation (games, stories, crosswords, shapes, odors, etc.). Why?

() Physical Activity. Why?

() Legacy (journal, intentions, teaching others, etc.). Why?

() Spirituality (being thankful). Why?

5. Did you practice at home some exercises (other than homework)? _____
Why?

6. What do you think about doing homework?

7. Suggestions for the course?

8. Suggestions for the instructor?

Appendix E

Interview Questions / Contextual Participants (Teachers/Staff)

What is your current position?

How long have you been in this position?

Can you give me a brief overview of what it is you do here at the institute?

What would you say most motivates you to do what you do?

What are you most excited or passionate about?

What are the goals you most want to accomplish in your work? Not so much the goals that are in your job description, but the goals you hold personally.

I want to understand how and why you ended up here working as an educator/staff of seniors in this learning institute.

What led you to this job/activity?

What were you doing before you came here?

What attracted you to work/teach for this institute?

Do you think that this learning institute has influenced the participants' social relationships? Why or How?

Do you think that this learning institute has influenced the participants' happiness?

Do you think that this learning institute has influenced the participants' life satisfaction?

Do you think that this learning institute has influenced the participants' lives? If yes, how?

What do you think about the idea that these type of learning institutes could be a resource that facilitates access to other resources of value to participants, such as ideas, services, favors, information, and so on.

Overall, do you think that the institute affects-

Community solidarity (help each other)

Everyday sociability

Community participation
Neighborhood connections
Family connections
Sense of belonging
Trust and fairness norms

Do you observe differences between the population from the retirement community and outside of the retirement?

Do you remember something that should be included in this research regarding social networks, happiness, quality of life, or impact in the community?

Can you share with me a special story regarding the institute participants?

Specific questions for the director and coordinator

Were there key turning points in establishing the institute?

Were there any surprises?

What were the key relationships that mattered most?

What were the key sources of support or resistance you encountered?

In your opinion, what are the challenges or difficulties of these type of institutes?

In your opinion, what are the benefits of these type of institutes for the participant?

Specific questions for a teacher

What is the most difficult or challenging aspect of teaching at this institute?

What do you do to deal with these challenges?

What is most rewarding?

What have you learned from the people you work with in this learning institute?

Do you view your contributions as successful? In what ways?

Does a metaphor come to your mind to describe the kind of work you do? (If needed, give examples like “orchestra conductor,” “coach,” etc.)

Do any metaphors come to mind to describe the participant's experience?

Demographics

Gender:

- Male
- Female

In what year were you born? _____

What is your marital status?

- Now married
- Widowed
- Divorced
- Separated
- Never married

What is the highest degree or level of school you have completed?

- No schooling completed
- Nursery school to 8th grade
- 9th, 10th or 11th grade
- 12th grade, no diploma
- High school graduate - high school diploma or the equivalent (for example: GED)
- Some college credit, but less than 1 year
- 1 or more years of college, no degree
- Associate degree (for example: AA, AS)
- Bachelor's degree (for example: BA, AB, BS)
- Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
- Professional degree (for example: MD, DDS, DVM, LLB, JD)
- Doctorate degree (for example: PhD, EdD)

Are you currently...?

- Employed full-time
- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Retired
- Unable to work

Appendix F

Interview Questions / Senior Learners

Do you participate in another learning program? (Different location)

How many courses have you taken at this learning institute?

What is your overall experience of participating in an educational course?

What is your overall experience of participating in a learning institute for seniors?

Why do you attend these types of courses?

Taking all things together, would you say you are:

Very happy, rather happy, not very happy, or not at all happy

Why?

All things considered, how satisfied are you with your life as a whole these days?

Completely satisfied										Not satisfied at all
	10	9	8	7	6	5	4	3	2	1

What aspects of this educational course or the institute are significant to you regarding your happiness?

What aspects of the course or the institute are related to your life satisfaction?

How many groups or organizations do you belong to? (Religious groups, teams or groups of people who get together regularly)

Because of your participation in the course or the learning institute, have you increased your social networks?

Generally speaking, would you say that most people would try to take advantage of you if they got the chance, or would they try to be fair?

How do people in your community/neighborhood get along these days?

How would you rate the togetherness or feeling of belonging in your neighborhood (very close to each other or people do not feel close)?

Do you get together with a group of people to do arts, crafts, or another recreational activity?

Who are the people with whom you usually get together?

Do you spend time with people outside your home? If yes, with whom?

How likely is it that you would ask your neighbors for help if you were sick or if you need a favor?

Do you volunteer or help in community activities? If yes, how many times per month?
Since when?

Do you think that you trust in more people because of your participation in the course or the institute?

How proud are you of who you are?

How proud are you of belonging to this learning institute?

Why do you attend to educational courses?

What do you like the most about this learning institute?

What suggestions do you have in order to improve the learning institute?

Do you observe any change in your behavior, thoughts, or attitudes during or after your participation in the brain course or the institute?

Has anyone in your home observed any change in your behavior, thoughts or attitudes during or after your participation in the brain course or in the institute?

Do you think that your participation in the educational course or the institute has impacted your social relationships?

Do you notice any changes in your social relationships with your family, your neighbors, or your friends?

Is there something that you would like to share about your experience in the course?

Is there something that you would like to share about your experience at this learning center?

Does any metaphor come to your mind to describe your experience in the course or in the institute?

What is your gender?

Male

Female

In what year were you born? _____

What is your marital status?

- Now married
- Widowed
- Divorced
- Separated
- Never married

What is the highest degree or level of school you have completed?

- No schooling completed
- Nursery school to 8th grade
- 9th, 10th or 11th grade
- 12th grade, no diploma
- High school graduate - high school diploma or the equivalent (for example: GED)
- Some college credit, but less than 1 year
- 1 or more years of college, no degree
- Associate degree (for example: AA, AS)
- Bachelor's degree (for example: BA, AB, BS)
- Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA)
- Professional degree (for example: MD, DDS, DVM, LLB, JD)
- Doctorate degree (for example: PhD, EdD)

Are you currently...?

- Employed for wages
- Self-employed
- Out of work and looking for work
- Out of work but not currently looking for work
- A homemaker
- A student
- Retired
- Unable to work

VITA

Ana Patricia Aguilera Hermida

EDUCATION

2016 Doctor of Education. Lifelong Learning and Adult Education. Penn State University
2005 Master of Science in Psychology. Residence in Systemic Family Therapy
Universidad Nacional Autónoma de México
2002 Certification. Clinical Psychology. CENEVAL- México
1998 Bachelor of Science in Psychology. Universidad Nacional Autónoma de México

PROFESIONAL EXPERIENCE

Adjunct Professor of Psychology
The Pennsylvania State University, Harrisburg, PA. 2013-2016
Creator and Coordinator of the Global Lion Mentor Program,
The Pennsylvania State University, Capital College, Middletown, 2012-2016
Creator and Principal of a Learning Institute for Seniors: UNIDE.
Government Agency. México, 2010-2012
Supervisor. Clinical Psychology. CENHIES. Hidalgo, México 2009-2012
Private Practice. Clinical Psychology. México, 1995-2012
Professor. Department of Health Psychology, Graduate Studies, Hidalgo, México 2007-2012
University ETAC, México, 2006-2010
University Justo Sierra, México, 2002-2003
Social Psychologist Nationwide. SOS Children's Villages, México. 1996-1997
Independent Trainer. México, 2002-2010
Principal. Child Care Facility. México, 1999-2001
Human Resources Manager, Sodexho México, México, 1997-1999
Elementary Teacher, Colegio Americano, 1991-1996

AWARDS

2016 The Learned Society of Whispering Pines Graduate Student Award in Adult Education
The Pennsylvania State University, Capital College
2015 Ruth Ellen Eshelman-Lenker Memorial Research Award
The Pennsylvania State University, Capital College
2013 Ardeth and Norman Frisbey International Student Award 2013
The Pennsylvania State University, University Park
2013 The Doris Hughes Memorial Award 2013 in the graduate category
The Pennsylvania State University, Capital College.
2008 Award for Excellence in Teaching
Universidad ETAC
2007 Award for Excellence in Teaching
Universidad ETAC