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CHILDREN OF DEAF ADULTS (CODAs): AN EXPLORATION INTO THE ORIGINS OF SELF-DIRECTED LEARNING BEHAVIORS

By

Stuart David Blatt

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ABSTRACT

CHILDREN OF DEAF ADULTS (CODAs): AN EXPLORATION INTO THE ORIGINS OF SELF-DIRECTED LEARNING BEHAVIORS

By

Stuart David Blatt

The purpose of this study was to investigate the relationship between early integration of self-directed learning behaviors and how they manifest themselves during the adult years in the Children of Deaf Adult (CODA) population. This dissertation employed an in-depth study of hearing CODAs to achieve its objectives. This inquiry utilized both quantitative (self-directed learning readiness scale (SDLRS), and qualitative (interview) measures to ascertain meaningful answers to the questions understudy. The research project addressed the following three primary questions:

1. How do CODAs perceive the impact that culture and the key developmental factors had on the emergence of their Self-Directed Learning behaviors?

2. Which of the identified Self–Directed Learning characteristics are most prevalent in the sample CODA population?

3. How do CODAs understand the influence that their culture and key developmental factors had on the identified Self-Directed Learning characteristics?

The data analysis demonstrated the following four relationships: (1) There was congruence between the qualitative and quantitative components around the SDL characteristics of; love of learning and self directedness. (2) Love of learning and self-directedness characteristics are ranked highest on the SDLRS. These characteristics were not influenced by age, gender, frequency of signing, education or birth order of the CODAs studied. (3) The demographic data indicates that the more often one signs the greater the developmental impact and influence it had on creativity, lifelong learning, self awareness and acceptance of responsibility for one's learning within the CODA population studied. (4) Table 4 (page 63) indicates that love and learning and self concept were the key influences for SDL behaviors on both the qualitative and quantitative analyses.

Implications for the field of SDL were explored and recommendations for further research offered.

DEDICATION

Thank the subjects whose willingness to participate and share their life stories made this study possible.

ACKNOWLEDGEMENT

This dissertation is dedicated to my family, the faculty of the Hale Program, and my friends who accompanied me on this educational journey. The people who travel with you on life's journey enrich the enjoyment of the experience.

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Glossary

Key development factors

Factors to be determined by the researcher based on the interview process with the selected CODAs. Subjects will be asked to recall and share pivotal events which indicate moments of SDL.

CODAs

A nationally and internationally recognized term for any hearing person whose biological parents are deaf. This term also indicates that the afore mentioned person was also raised in a deaf household, where signing is the primary means of communication.

Perceived

A recollection of events as reported by CODAs

Self-Directed Learning Readiness Scale (SDLRS)

A questionnaire designed by Guglielmino which is comprised of a series of 58 questions, utilizing a 5 point Likert scale, which determines learning preference and attitudes toward learning.

Level of Self Directed Learning

Aggregate and subscale results on the Self-Directed Learning Readiness Scale (SDLRS)

Self Directed Learning Behaviors

The eight attributes for SDL are based on measurements of the scores of the individual subscales of the Self-Directed Learning Readiness Scale. (SDLRS). The eight attributes are as follow:

1. Love of learning; love is defined as a strong fondness or enthusiasm for something, and learning is defined as to gain knowledge, comprehension or mastery of through experience or study.

In this study, love of learning is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I look forward to learning as long as I am living.

b. I love to learn

c. I have a strong desire to learn new things.

2. Self-concept as an effective, independent learner; self-concept is defined as an awareness or consciousness of one's own being or identity , effective is defined as having the capacity to produce, and independent is defined as free from influence, or autonomous.

In this study, self-concept as an effective, independent learner is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I am an effective learner in the classroom and on my own.

b. The people I admire most are always learning new things

c. Learners are leaders

3. Tolerance of risk, ambiguity, and complexity in learning; tolerance is defined as a permissible deviation from a specified value , risk is defined as a factor, element or course involving uncertain danger, ambiguity is defined as susceptible of multiple interpretations, and complexity is defined as intricate or elaborate relationship between the parts.

In this study, tolerance of risk, ambiguity, and complexity in learning is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I really enjoy tracking down the answers to the question

b. I like to try new things, even if I am not sure how they will turn out

c. Difficult study does not bother me if I am interested in something

4. Creativity; creativity is defined as characterized by originality, expressiveness, and imaginative.

In this study, identifies creativity is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I am good at thinking of unusual ways to do things.

b. I have a lot of curiosity about things

c. I can think of many different ways to learn about a new topic

5. View of learning as a lifelong, beneficial process; lifelong is defined as continuing for a lifetime, and beneficial process is defined as a system or organization which promotes a favorable result

In this study, view of learning as a lifelong, beneficial process is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I try to relate what I am learning to my long- term goals.

b. Learning is a tool for life.

c. I will never be too old to learn new things

6. Initiative in learning; initiative is defined as the power, ability or instinct to begin or to follow through with a plan, or task

In this study, initiative in learning is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I know when I need to know more about something

b. I can make myself do what I think I should

c. I am better than most people are at trying to find the things I need to know

7. Self-understanding; self understanding is defined knowledge of one's nature, abilities and limitations

In this study, self understanding is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. I enjoy discussing ideas

b. Learning how to learn is important to me

c. In a learning experience I prefer to take part in deciding what will be learned and how,

8. Acceptance of responsibility for one's own learning: acceptance of responsibility is defined the act or process of assuming the duty, burden or obligation

In this study, acceptance of responsibility for one's own learning is operationally defined through a cumulative score of seven questions on the SDLRS, samples of the questions identifying this characteristic are:

a. No one but me is truly responsible for what I learn

b. I can tell whether I'm learning something well or not

c. I am responsible for my learning-no o ne else

Adult learner

A CODA

deaf

A medical condition indicating some degree of hearing loss, which interferes with their capacity to communicate

Deaf

A community of Deaf persons as reflected in their socio-cultural values and practices

CHAPTER ONE: INTRODUCTION

A mind once stretched never returns to its original dimension.

Oliver Wendell Holmes

The accepted terminology to describe hearing children raised in a Deaf household is Children of Deaf Adults or CODAs. Imagine the challenges CODAs face on a daily basis from a very early age in an effort to conduct the simplest of life's tasks. What are the ramifications associated with this population being thrust into significant life situations during various key developmental periods? To adequately answer these questions an appreciation for the developmental struggles CODAs confront is essential.

The Divergent Developmental Patterns of CODAs

In general, CODAs undergo an atypical developmental process, which facilitates the emergence of an unconventional approach toward problem solving. They demonstrate unique problem-based tactics toward learning that are influenced by their cultural environment and their cognitive processing skills. The following anecdote explicates the impact that cultural influence has on life-long learning processes within the CODA population. I interviewed this subject who offers insight that epitomizes one of the many ongoing life altering challenges CODAs encounter.

> The word CODA, I have come to learn to accept as an image of what we are supposed to be. For me it is psychological, because it means Children of Deaf Adults. It is just the idea that we are always children, and we never grow up. We are CODAs, we are children.

Our parents are adults, we are not, we are children, and it is a psychological thing for me.

[I once attended] a meeting for CODAs. [At the] CODA meeting, [there were many people] of people, a lot of them are females, and you have some guys, and they had a lot of fun. A lot of silliness, childish behavior, jokes, laughing, carrying on. I started noticing it was like, people are hard to get serious about stuff, people just laughed and laughed and tried to escape, because I think a lot of us didn't have any real childhood.

We were serious kids, we were *parentified* children, because we often had to take care of or worry about our deaf parents. Even if our deaf parents were able to take care of themselves as children we looked at them as fragile. I am (only) speaking for myself, I shouldn't speak for everyone. You think your parents are the most fragile. I was the first born, I was watching out for everything, I hear this sound or I hear that sound. Feeling responsible for my folks, in a way, became who I was, feeling responsible for others.

Continuing with this "parentified" concept, consider the implications on the natural developmental learning processes that are taken for granted by nondisabled populations. The natural developmental learning processes typically afforded to children without disability may not be afforded to those children whose physical abilities are different than their parents. To illustrate this point, consider the following lifestory a subject told me:

Well, my mother tells me that when I was about 6 months old, [and] I was the first child, [and] my father had put together a makeshift cry alarm thing. Back then they weren't sophisticated at all, just put together with some wires and whatever. And apparently I was crying during the night and nobody came to my aid because the wires were cut. So somebody called the fire department and they broke in the door, and scared my mother out of her wits. My mother was very upset even though my father fixed it. So my mother moved the crib to the edge of her bed and tied a string from my finger to her toe, or whatever, for a while.

The interesting thing is that after the day that happened, I never cried anymore in the crib. I stuck my hands through the bars and would pull on the blanket, and she woke up one night and she said, "Oh my God, she knows we are deaf." That was a very early learning experience.

This life story also demonstrates a cognitive process that the CODA underwent in an effort to facilitate the development of effective communication with her parents. The child in the above situation hears herself crying, but the typical parental response did not occur. This situation creates instinctual dissonance within the infant and triggers the need to develop an alternate approach to communicate her wants and needs. The child foregoes her verbal/auditory communication skills and adapts a tactile approach for effective communication.

Utilizing the "parentified concept" as a guide to assist in understanding the development of CODAs, it becomes imperative that this inquiry recognize that hearing children raised in a Deaf household may not be exposed to meaningful noise. As a result, they develop a skewed view of the value of sound. Sound becomes a prompt to investigate, and not a mechanism for communication. Sign becomes the primary mechanism for communication within their immediate social circle, and the norms and mores of Deaf culture become inextricably linked to the CODA's self concept. Not until they become cognizant of their distinctiveness within their life situation do they inquire about what it means to be Hearing. One life event, in particular, resonated with me and served as a catalyst for this dissertation.

Origin of the study

I developed the original idea to study CODAs when I was providing physical therapy services to Deaf children attending the Michigan School for the Deaf and Blind (MSDB). During the seven years that I was employed by the MSDB, I was fortunate to develop relationships with many people who had some degree of hearing loss as well as some who were CODAs. Through my interactions at MSDB, I developed an admiration for the resolute nature demonstrated by people who have some level of hearing impairment. The CODAs at MSDB worked in various capacities within the school and over the years they told me numerous life stories. The following story tells about a meaningful Hearing occurrence.

One day Sarah (a colleague of mine at MSDB), recalled how she realized for the first time that she was Hearing. When she was about 4 years old, she was taken to a neighbor's house to be "taught" how to hear. Sarah said that in her home they always had a hot breakfast but on this particular day the neighbor offered her a cold breakfast of Rice Krispies. When the neighbor poured the milk onto the cereal, she asked my colleague if she could hear the "snap, crackle and pop"? Sarah looked at her inquisitively, lowered her ear to the bowl and realized she could hear the sounds the cereal was making.

When I asked Sarah what meaning she attributed to that event, she said that it was a pivotal moment for her. From that moment on she realized she was different and would possess life experiences that her family could never know. She became "parentified" recognizing that she would need to be the bridge between the Hearing and Deaf worlds. She is currently employed as a sign language interpreter and sign language teacher. In addition she is frequently called upon to assist with situations in which a Deaf person's legal or medical rights may be in jeopardy.

After hearing this story, I became increasingly curious about how CODAs learn to be Hearing. Whenever I inquired of my CODA friends concerning this topic (learning to Hear), they had similar responses. Typically they were introduced to a Hearing person who informally taught them about being hearing, but the norms and mores associated with Hearing culture were never discussed. They told me that they would constantly watch how Hearing children behaved to learn about what Hearing people do in various situations.

The fundamental beliefs of self-directed learning (SDL), juxtaposed with what I knew about CODAs, revealed a practical level of congruency. I kept searching for the most appropriate SDL framework and assessment tools which would substantiate the findings in my attempt to fully explore this unconventional population.

Theoretical Framework

CODAs are essentially considered to be Deaf children during their formative years. Therefore their developmental patterns tend to mirror those of their Deaf counterparts. It isn't until they have a need to develop their hearing sense that their cognitive development becomes holistic. The duality of nature and nurture creates distinctiveness that is unique to the CODA population. These rare childhood experiences provide them with an often unexplored perspective regarding the transformation to functionally integrate themselves into both the able-bodied and the disabled cultures.

The above life stories illustrated that critical developmental factors and cultural interactions have a profound effect on the cognition/learning processes of CODAs. The key question of this dissertation is: What are the long range manifestations of SDL associated with nontraditional learning processes within the CODA population?

According to Abdullah (2001), self-directed learners are responsible owners and managers of their own learning process. Such individuals have the skills to access and process the information they need for a specific purpose. This definition accounts for the learning process related in the story above about how

the infant discovered an effective manner for communicating with her parents. Her story offers valuable insight into the situations that serve as catalysts toward the development of self-directed learning processes CODAs employ. The subject's approach of seeking an alternate communication procedure in response to a specific situation represents the key elements of self-directed learning, as outlined by Abdullah.

In addition to the atypical scenarios associated with their childhood development, CODAs undergo a duality of cognitive or brain development as well. The relationship between cognitive development and the emergence of SDL behaviors within the CODA population has an undeniable connection. To enhance and appreciate the significance of this association, a brief overview of brain function in relation to cognition is in order.

Brain Development.

According to Buzan (1991), the left hemisphere of the brain processes information associated with logic, words, numbers and reasoning, whereas the right hemisphere deals with images, imagination and patterns. Goldberg (2001) states that grammatical language is an efficient established procedure for enhancing communication, and therefore, a process associated with left hemisphere function. Heller (1997) asserts that the right hemisphere is designed to interpret complex visuo-spatial processing in order to decipher, for example, the meaning of a facial expression in an effort to understand complex thought. Bavelier, et al. (2001), states that the cognitive development process employed by Deaf children has a propensity toward the integration of hemispheric duality

by using the right and left hemispheres in a reciprocal fashion, whereas Hearing children tend toward hemispheric laterality usage of the one hemisphere, the left hemisphere more than the right.

In an effort to further elucidate the importance of the right/left brain cognitive processing for effective Deaf communication, consider the following example. Within Deaf communication, the words "look," "see," and "watch," all are made with a similar sign; the index and middle fingers are in a hooked position, with the wrist bent upward. The determinate of whether the sign being made means to look, see, or watch is contextual and is based on the signer's ability to frame the situation (i.e. using facial expression, body language), so that the receiver can make the appropriate inference. This ability to comprehend the conveyed information requires that the recipient use the right hemisphere to interpret the abstract while integrating the context derived from the left hemisphere. One can see how early childhood development events could stimulate the evolution of an unconventional cognitive approach.

Calvin (1996) believes that people who are Deaf are inherently spatio-temporal learners. He describes spatio-temporal learners as individuals who are visually and tactility oriented. They use these senses to understand ideas and concepts within their environment. Once they have developed a conceptual framework, they are able to refine and reapply the basic tenet in various life learning situations. Johnson and Tucker (1996) and Wentworth, Haith, and Hood (2002), and Stuckey (1990) postulated that spatio-temporal learning begins in infancy. They determined that new born children organize their thoughts based

on how they perceive them visually. As the auditory system begins to develop, infants move from monosensory input into multisensory learning system. Deaf children as well as CODAs have limited auditory input; therefore they continue to utilize visual and tactile inputs which facilitate the spatio-temporal learning process. Zarfaty, Nunes and Bryant (2004) found that children age 3-4 years who are Deaf outperformed children who are Hearing on test which emphasized spatial and temporal understanding. However to assume that these developmental factors are the primary influence on cognitive function within the CODA population is myopic.

Cultural Influence

Vygotsky's social cognition learning model (1978) asserts that culture also has an influence on cognitive development. Therefore one can deduce that if culture has a significant influence on the development of cognition, then consequently it also has an influence on the emergence of SDL behaviors. Deaf children differ from Hearing children due to the nature of the environment in which they are raised. I witnessed a situation that demonstrates the cultural differences that influence the cognitive processing of people who are Hearing and those who are Deaf.

I was at the home of a couple where the wife is a CODA and the husband is Deaf. During the evening the wife became upset and was banging objects to vent her frustration. The husband, oblivious to the noise, was unaware of his wife's displeasure. The wife became so exasperated and signed to her husband "thank you very much." The husband became perplexed and signed "you're welcome."

This situation illustrates a fundamental difference between the two cultures, as it relates to the ability to understand context. Sarcasm does not exist in Deaf culture in the same form as in the hearing environment. This is due to the fact that sarcasm is based on voice inflection. Therefore, people who are Deaf tend to be more direct when it comes to expressing an abstract concept such as subtle displeasure.

The theoretical overview provides the rationale to study CODAs. Through ascertaining their inimitable perspective, a greater understanding regarding the effects that early integration of SDL behaviors in childhood had on SDL in adulthood can be achieved. My challenge in undertaking this dissertation was to understand: (1) the mechanism through which CODAs integrate incomparable life situations with effective learning schemas, (2) the need to discern the influence that a constantly evolving learning process has on the premature development of self-directed learning behaviors is critical to this investigation, and (3) the connection between Deaf culture, the manifestation of an emerging learning process, and its impact on the execution of lifelong self-directed learning.

Need for the study

Self-Directed Learning (SDL) has been an aspect of adult education theory since 1961 when Houle wrote the *Inquiring Mind*. Houle states: "It is important and worthwhile to study learning within the natural environmental framework because it focuses on everyday life." This concept provides an important impetus for inquiry into SDL; a practical need to solve a real life problem, which is

meaningful to the learner. Ultimately this learning process places the responsibility on the learner to define the parameters of the problem and to develop the strategies to solve it.

A majority of the SDL literature can be categorized into one of five theoretical domains; (1) goals for SDL, (2) SDL processes, (3) attributes or characteristics of a Self-Directed Learner, (4) philosophical perspectives of SDL, and (5) policy issues associated with SDL (Caffarella & O' Donnell, 1987). Of these five domains the primary focus has been on goals and the processes of SDL.

Researchers such as Linnenbrink and Pintrich (2003) and Caraway, Tucker, Reinke, and Hall (2003) have focused their investigations in an effort to understand who and what constitute a self-directed learner, but the literature is sporadic related to the development of these characteristics. This lack of information associated with the development of SDL characteristics necessitates the need to ask the question: What is the importance of the relationship between environmental factors occurring early in one's life and SDL behaviors in adulthood?

McAdams (1997) referred to those environmental factors as "Nuclear Episodes", which are reconstructed scenes of one's childhood which represent meaningful moments of different parts of the individual's life story. In a time when cultural factors are being considered at all levels of American education, insight gleaned from the CODA population provided the foundation to answer the following questions:

- What are the cultural and key developmental events which contributed to the advancement of SDL behaviors in CODAs?
- To what extent does growing up in a Deaf household prepare the subject to be a self-directed learner?
- What are the common themes, events and attributes among all subjects that influence their SDL behaviors?
- Are the learning behaviors of CODAs consistent with the behaviors of other self-directed learners in adulthood?

This study provides important insight into a specific subculture of children with special needs. The results of this study could provide greater awareness of the influence that environmental factors, in conjunction with culture, have on the facilitation of critical thinking patterns concerning nonmainstream children. In addition, these findings could influence and spur exploration into how marginalized children develop their own SDL strategies during their formative academic years. Ultimately K-12 educators could employ the findings to improve effective learning environments for the information age for all student populations

Statement of the Problem

Traditionally the study of SDL is limited to adults and what is occurring within their current life situation. Researchers of SDL are primarily concerned with how adults utilize SDL skills, and the most efficient manner in which to assist adults in acquiring SDL behaviors. Understanding goals and processes is necessary but not sufficient to fully comprehend SDL.

As specific SDL behaviors were examined closely, the influence that culture and childhood development had on learning style is evident. This study shows a fundamental need to explore the self to fully understand SDL. The following questions to be asked and answered:

1. Who is a self-directed learner?

2. What are the characteristics of a successful self-directed learner? and,

c. How can we create environments that facilitate SDL behaviors?

Merriam and Caffarella's research (1999) supports the above-stated framework asserting that in order to fully appreciate and understand what constitutes SDL, a greater emphasis must be placed on a multifactor approach to the research paradigm. Greater effort must be applied to include various interpretive and cultural aspects in the research.

In an effort to illustrate this point further, a brief overview of the body of research indicating a linkage between adult behavior and childhood events is warranted. Some educational theorists subscribe to the premise that key developmental childhood events do influence SDL in adulthood. Gibbons (2002) and Gibbons, Bailey, Comeau, Schmuck, Seymour, and Wallace, (1980) concluded SDL is a theme that persists through a number of developmental life events during a person's youth. As the person matures, their later life experiences maintain this plan until it becomes integrated as part of an unconscious choice within that person's life learning schema.

However, the majority of the research on the influence of childhood development on adult behavior remains in the realm of developmental

psychology. The following studies provide examples of the literature available that explores the relationship between the healthy childhood development and positive social behaviors in adulthood. Establishing an inextricable link between key childhood developmental factors and adult behaviors is a critical component to this study.

Erikson's theory of psychosocial development offers a meaningful perspective on a child's social development. Erickson proposes that there is a direct link between internal biological forces and cultural influences and positive social development (Santrock and Yussen, 1987). They assert that Erikson also believes that the development of a psychologically healthy adult requires successful resolution of conflict in the early phases of life stage development.

Carlson and Sroufe (1995) reported that children in school settings who felt more secure with their mothers and fathers during infancy developed greater ego resilience, social and exploratory competence in adulthood.

Hartup and Moore (1990) and Danis and Tremblay (1987) found that positive peer relationships contribute significantly to the social and cognitive development and ultimately to the effectiveness with which we function as adults. They believe that adult adaptation is linked to positive peer relationships in childhood, more so than grades and classroom behavior. The results of this study adds to the understanding of SDL theory and may contribute an integrating principle between SDL and childhood development.

A problem addressed in this study is the lack of knowledge relating to CODAs and the events that precipitated their need to develop their SDL

behaviors early in their educational development. The information gathered on CODAs provides insight regarding the significance of pivotal events and the influence culture has on the individual's evolutionary process toward SDL behaviors. This analysis of the data provides a greater understanding of the early childhood cultural and environmental influences that facilitate the development of SDL behaviors in adults within the CODA population

Purpose of the Study

This study attempts to elucidate the conditions that facilitate the development of SDL characteristics utilized by CODAs. An investigation of the Self–Directed Learning literature determined that certain characteristics are ascribed to Self-Directed Learners. CODAS provide insight and perspective on environmental factors, external and internal motivating forces that facilitated their development of SDL behaviors. This dissertation contributes to the body of knowledge related to those factors that are important in the development of SDL behaviors in CODAs. In addition the data provide normative statistics regarding SDL behaviors in CODAs.

The attributes or characteristics of SD learners have been clearly defined (Howell, 2001; Danis, 1992; Brockett &Hiemstra, 1991; Candy, 1991; Knowles, 1980; Guglielmino, 1988, 1989, 1996, 1997; Grow 1991; Oddi, 1986). This study investigated the fundamental elements of the development of these attributes as they relate to CODAs. The power of this study emanates from its methodologies that delve into the perspective of CODAs to explore their childhood memories as they transformed into self-directed learners.

Description of the Subjects

At the time of this study, all subjects (CODAs) selected for this study were 25 years of age or older, hearing, and were raised in a household in which one or more persons were deaf. These individuals represent the prelingual Deaf population, a homogenous group raised without oral language for a significant portion of their formative years. CODAs, because their hearing and oral communication skills are intact, can articulate the problems associated with being considered disabled and its impact on the formative years in childhood (Beazley & Moore, 1996; Oliver, 1987). CODAs are a bridge between the hearing impaired and the able-bodied communities and can illustrate how they make a transition from one culture to the other in the absence of a predetermined structured learning process. In an attempt to appreciate the CODA's approach to self-directed learning from both quantitative (left brain function) and qualitative perspectives (right brain function), I employed a combination of a questionnaire and semi-structured interviews.

Research Questions

The three research questions for this study are:

1. How do CODAs perceive the impact that culture and the key developmental factors had on the emergence of their Self-Directed Learning behaviors?

2. Which of the identified Self –Directed Learning characteristics are most prevalent in the sample CODA population?

3. How do CODAs understand the influence that their culture and key developmental factors had on the identified Self-Directed Learning characteristics?

CHAPTER TWO: LITERATURE REVIEW

In a certain sense every experience should do something to prepare a person for later experiences in a deeper and more expansive quality. That is the meaning of growth, continuity, reconstruction of experience.

John Dewey

By definition CODAs are hearing children raised in a Deaf household during their prelingual years who possess many Deaf characteristics, and therefore they consider themselves to be Deaf during their early years. I faced an interesting conundrum because I chose to study CODAs for this research project. This understudied population, which provides an opportunity to gain insight into this relatively unknown subculture but lack information or an extensive body of knowledge, curtails the researcher's ability to derive a basis to fully understand CODAs. In an effort to broaden the background information of CODAs, I integrated the limited CODA research with the expansive knowledge base of Deaf culture and the cognitive development patterns of Deaf Children.

The research questions for this study are explicitly derived from three separate but related bodies of knowledge: (1) Children of Deaf Adults, (2) Cognitive development of Deaf children. and (3) Self-directed learning. In addition to exploring each body of knowledge separately, I have provided a summary statement to integrate and synthesize the meaningfulness of the literature as it relates to this study.

Sociocultural Aspects of the Deaf Community.

This study is predicated upon the assumption that being Deaf is primarily a cultural phenomenon, rather than a medical one, in order to demonstrate that the sociocultural aspect of development is pivotal to the development of SDL attributes. This section supports the rationale to study CODAs in an effort to understand the impact that early integration of SDL behaviors has on lifelong SDL. Prior to discussing CODAS, an examination of the relationship between deafness and culture is necessary. Over the years and continuing up to the present, the deaf community continues to be delineated in terms of a lower case "d". This mechanism of identification indicates a medical condition, something for which adaptation or medication is suitable. Deaf community members do not view themselves in this manner. People who are Deaf see themselves in terms of a capital "D", indicating a group of people or a culture. Therefore, in the remainder of this study I will refer to people who are Deaf using a capital letter to signify this cultural aspect (see operational definitions on page ix) (Padden1989).

For the purpose of this study, the term culture follows the definition as described by Krober and Kluckholn (1963): (1) culture is a way of life based on some system of shared meaning; and (2) the system is passed on from generation to generation. Krober and Kluckholn continue to clarify their position by explaining that the system is based on an aggregate of signs (words, gestures and other visual symbols), codes (language and art), and text (conversation and composition), which are the mechanisms that the social group creates in order to engage in daily life routines and plan activities for the future.

This definition describes the Deaf community: (1) they posses a group collective or shared meaning, (2) they have an aggregate of meaningful signs culminating to create the basis of sign language, and (3) they produce text in the form of interpersonal communication and prose, and therefore meet the criteria established by Krober and Kluckholn.

The norms and mores that govern the Hearing and Deaf worlds are uniquely different. The following are examples of stated norms within Deaf culture:

- Deaf people use their eyes to understand the world around them, in Hearing culture staring is impolite.
- Deaf people use facial expression to communicate feeling and expression, in Hearing culture facial expressions are integral to covey meaning.
- Deaf children are taught to limit mouth movements when signing, something that is not encouraged in Hearing culture. Movement of the mouth facilitates better pronunciation of words.
- Deaf people use touch to get one's attention and may have limited personal space; this is discouraged in Hearing culture.
- Deaf people introduce themselves by full name and where they are from, whereas in Hearing culture name is usually all that is shared initially.

Summary

Recently within the adult learning community the question about cultural influences is beginning to be explored as it relates to one's learning style (Ziegahn, 2001). This concept, coupled with the review of the sociocultural literature, brings to light an important observation. Currently deafness is not characterized as a culture but as a medical ailment, and therefore they are not treated in the same manner as other cultural groups who have formalized educational mechanisms (i.e. English as a Second Language) to transition from their native culture to the American culture. This situation affords this study the opportunity to ask two very poignant questions:

1. What are the processes that CODAs undergo in order to learn how to be "Hearing"?
2. What are the environmental factors that facilitate or inhibit the individual's transformation?

Cognitive Development of Deaf Children

Cognitive development is a multifactor phenomenon, which is influenced by neurological, sensory and motor development. Numerous studies focus on the language and cognitive development of Deaf children as compared to Hearing children. Researchers believe that Deaf infants born to Deaf parents and Hearing infants born to Deaf parents who are native signers (CODAs) demonstrate the ability to communicate one to three months earlier than their hearing counterparts (McIntire, 1977; Orlansky & Bonvillian, 1985; Prinz & Prinz, 1979; Sachs & Johnson, 1975; Wilbur & Jones, 1974; Goodwyn & Acredolo, 1988.)

Therefore it is reasonable to assume that CODAs and Deaf children raised in a Deaf household will have similar childhood development experiences.

Other researchers, who studied neurodevelopment patterns of Deaf infants as compared to Hearing infants, concluded that Deaf infants possess higher hand/eye coordination skills. They attribute this phenomenon to the increased rate of touching and visual contact between mothers and infants (Koester and Trimm, 1991; Spencer, 1991). Because sign language requires the recipient to interpret the gestures and facial movements to fully comprehend what is being communicated, the behaviors and interactions between a Deaf person and the outside world is based on the Deaf person's perception of events (Dale, 1980; Mimoun, 1989). This ability to use one's perceptions to interpret the world around fosters and nurtures the development of linguistic flexibility in Deaf children (Gardner, 1978; Yoder 1998).

Linguistic flexibility is the ability to classify objects more succinctly, specifically it facilitates the development to cross classify objects and to see abstract relationships across domains that supersede the superficial relationships (Billow 1975; Marschark and Nall, 1985, Marschark, 2004). Deaf children have demonstrated linguistic flexibility skills as early as age 6.

Lien and Ruthruff (2004) found that individuals who are Deaf were able to score higher on spatio-temporal tests as compared to their Hearing counterparts. In addition they found that spatio-temporal learners demonstrated a hierarchical task organizational schema which they were able to use on subsequent tasks. Weist (1997) found that the earlier that spatio-temporal learning was integrated

into the child's linguistic learning system, the likelihood that they will be able to integrate and synthesize complex linguistic concepts with life events increases significantly. Mungas (1991) found that age and spatial understanding were directly proportional. The later spatial learning was introduced to the learner the harder it was to integrate it into a learning schema. These findings support the premise that people who are Deaf develop spatio-temporal learning characteristics due to the nature of their early childhood environment.

Conversely, Deaf children demonstrate significant decreases in written and oral communication skills. Orlansky and Bonvillian (1985) found that the vocabulary of an 18-year-old Deaf student was comparable to 9-year-old Hearing student. Researchers continue to site vocabulary gaps between Deaf and Hearing children, which they attribute to a decrease in exposure to concepts that do not exist in Deaf culture (Aronoff, 2005, Bonvillian, 2000, Blanton and Nunnally, 1967; DiFrancesca, 1972). An example of this problem is the word "instrument"; there is no sign for instrument. However, if asked to name the objects that people use to make music, Deaf children can name them.

In addition to vocabulary deficits, researchers found that Deaf children lack the knowledge of nursery rhymes, jingles, proverbs, and idioms. Researchers found that in order for Deaf children to comprehend these aspects of hearing speech, they need to be specifically taught (Dale, 1980). Other researchers found a decrease in verb usage as it relates to existence (e.g. be, have, and will).They attribute this limitation in their speech pattern with a lack of signs for

these words within various types of sign communication (Griswold & Cummings, 1974, Fusaro & Slike, 1979 & Flaherty, 2004).

Another deficit noted in Deaf children as compared to their Hearing counterparts is the aspect of syntax. Deaf children use a sign syntax that is object verb, then noun; this is based on French conjugation of sentence structure. However within traditional English or spoken language the syntax is noun, verb, and then object. This limitation in communication style (in countries where English is the native tongue) causes decreases in the Deaf child's ability to fully comprehend what is being expressed to them as well as their ability to express their thoughts and ideas in a sophisticated manner (Baltes 1987; Bonvillian & Nelson, 1982).This limitation in syntax conjugation also limits the Deaf child in reading comprehension. Reich and Reich (1974) demonstrated a lag in reading levels can be as great as five years below age approppriate. These researchers also found that the lag in reading corresponded with a limitation in their writing skills as well.

Most researchers believe that one of the greatest limitations to the success of Deaf children is the parent's inability to sign. It has been noted the majority of Deaf children are born into hearing households. According to Marschark (1993) and Harmon (1992) over 85% of hearing parents do not sign to their children. Therefore Deaf children are raised without the opportunity to learn how to communicate effectively during their formative years.

Summary

The research in cognitive development concludes that the environment in which Deaf children are raised stimulates neurodevelopmental patterns of specific nature in response to requisite survival skills. In addition, the data demonstrates when a familial bond and interpersonal communication exists between Deaf parents and a Deaf child, their intellectual capabilities are consistent with those of hearing children.

CODAs are a group of people who were raised during their formative years without spoken language, and because they are hearing, they are expected to be part of the hearing culture. According to Padden (1982), CODAs are constantly adapting their behaviors to conform to the world they are currently living in. CODAs represent a unique blend of the Hearing and Deaf worlds and consequently this study focuses on them to facilitate greater understanding.

The following questions are essential elements needed for CODAs to function in the world in which they interact, and thus are primary foci of this study.

- How do CODAs learn to shift behaviors?
- When did they first learn to be hearing?
- Is there a self imposed survivalistic learning style?
- Does learning style serve as a catalyst for the development of lifelong self-directed learning behaviors?

Self-Directed Learning

A critical component of this study is an understanding of the development of the attributes of SDL. SDL by definition is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes, (Husby, 2005; Grow, 1991; Knowles, 1975). Hammond and Collins (1991) and Bryant and Usher (1997) define SDL as a process in which the learner takes the initiative, with the support and collaboration of others, for increasing self and social awareness, critically analyzing and reflecting on their situations, diagnosing their learning needs with specific reference to competencies they have helped identify, formulating socially and personally relevant learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and reflecting and evaluating their learning.

As mentioned previously, according to Caffarella and O'Donnell (1987), five primary theoretical areas within the study of SDL are: (1) goals for SDL, (2) various SDL processes, (3) personal attributes of a self-directed learner, (4) philosophical perspectives on SDL, and (5) policy issues surrounding SDL.

The studies exploring the attributes of the SD learner began to take shape in the early 1970s. Researchers focused on the frequency and the nature of the participation of the learner. During that period, Tough (1979, 1983) acknowledged that the current research base was the tip of the iceberg, and a

need for broad understanding of the SDL phenomenon was in order. Tough elucidated on his point stating that little is known about the personal variables, self concept, and creativity of the SD learner.

Review of the current status of SDL has elicited numerous studies on SDL that focus on linking SDL with learner's characteristics. Studies by researchers like Scheidet (2003) link web-based learners and an increase in SDL behaviors. Shostrom (1977) used the Personal Orientation Inventory, a questionnaire designed to ascertain one's perception of their own "self actualization" based on the work of Maslow. Ferrell (1978) used the Autonomous Learner Index to measure the learner's perception of whether they prefer independent or dependent learning projects.

Other researchers demonstrated difficulty finding highly valid methodologies to determine the attributes of a SD learner. Brookfield (1986) and Pratt (1984) both tried to correlate the level of field dependence or independence with the learner's ability to be a SD learner. The outcomes of these two studies were contradictory: Brookfield found a positive correlation with field dependent learners and Pratt found a positive correlation with field independent learners.

Deroos (1982), Theil (1984) and Adgengua (1991) attempted to correlate Kolb's classification with SDL. Kolb's (1984) four classifications are: (1) concrete experience where one is willing to engage in new experience, (2) reflective observation where one reviews the results of the new experience from multiple perspectives, (3) abstract conceptualization where one reflects on what they learned and the benefit of the newly acquired information will have in future

learning situations, and (4) active experimentation where one takes these new ideas and apply them in other parts of their life. Each study determined that a different classification had a greater propensity toward SDL behaviors.

In 1977, Guglielmino developed a Self-Directed Learning Readiness Scale (SDLRS) to objectively measure one's ability to be a SD learner. Guglielmino designed her tool to assess the extent to which learners perceive themselves to posses the skills and attitudes that are associated with SDL (Guglielmino, 1977).

Guglielmino's research gave rise to Oddi's study (1986), which also studied learner's perceptions based on three dimensions: proactive verses reactive drive, cognitive openness versus defensiveness, and commitment to learning versus apathy or aversion to learning. These two forms of study differ from the others because they sought to understand not only the learner's characteristics but to study their initiation and persistence over time.

I employed Guglielmino's SDLR scale due to the fact that it has demonstrated sustainability; also, numerous researchers nationally and internationally have utilized it. The following overview demonstrates the applicable nature of the SDLRS tool for various populations, and tells why I selected it to be part of this dissertation

SDLRS and Sociocutural Issues:

Since its inception in 1977, many researchers have used the Self-Directed Learning Readiness Scale. Torrance and Mourad (1978) studied SDL and right hemisphere thinking. The results indicate a positive shift linking creativity and

SDL behaviors. Sabbaghian (1979) studied adult undergraduates to determine a relationship between SDL and self concept. She found six important concepts:

1. a positive correlation between SDLRS and self concept,
2. self concept correlated in a positive direction to seven of the eight SDL behaviors measure on the SDLRS (acceptance of responsibility for one's own learning was the only item that did not correlate),
3. positive correlation between self image and SDL readiness,
4. years of education and SDL readiness correlated positively and higher on four of eight items (love of learning, creativity, initiative in learning, self understanding)
5. class rank and SDL behaviors did correlate positively and
6. no relationship between gender and/or age existed.

Numerous researchers continued to study SDL and various populations. Brockett (1983, 1985) studied 64 persons (60 years and older) who completed the SDLRS and the Salamon-Conte Life Satisfaction in the Elderly Scale (since renamed the Life Satisfaction in the Elderly Scale) (Salamon & Conte, 1981). He concluded that a weak but statistically significant positive relationship exists between the two assessment systems. Brockett suggests that a relationship may exist between one's perception of self-directedness as a learner with regard to concepts such as independence and quality of life during the later years.

Curry (1983) studied self-directed readiness of 300 participants in formal adult education programs. She found significant differences in SDLRS scores based on marital status, educational background, and self-reported measures of

intellectual functioning, learning and health, self-help groups and health, and current life satisfaction. Curry found that older married individuals with higher education scored higher on the SDLRS.

McCarthy (1986) used the SDLRS to examine relationships between self-directedness and attitude toward mathematics among 183 younger undergraduate students (age 25 or younger) and older students (26 or older). The results illustrated no significant relationship was found between self-directedness and attitude toward mathematics; the older group scored significantly higher on SDLRS scores.

Reynolds (1986) studied 95 part-time community college students seeking a correlation between motivation for success and SDL behaviors. All subjects were given the SDLRS and the Education Participation Scale (Boshier, 1971). Reynolds found a significant positive correlation between SDLRS score and the motivational orientation factor "Cognitive Interest." Reynolds found a significant negative correlation between readiness for self-direction and the motivational orientations of "Professional Advancement" and "External Expectations." Based on these findings, Reynolds suggests that self-directed readiness may be associated with the desire to learn for the sake of learning, but those who are motivated by external factors, such as the desire for professional advancement and the expectations of others, are likely to be lower in self-directedness.

These studies provide reasonably strong support for a link between life satisfaction and self-directedness among older adults. It is noteworthy that self-directed readiness appears to be linked to such factors as creativity, problem-

solving ability, and degree of personal change (Torrance & Mourad, 1978; Mourad, 1979; Roland and Volet, 1996), which I explored in this study.

SDLRS and Professional Education

Litzinger, Wise and Lee (2005) studied SDL behaviors of 300 engineering students enrolled in a problem-based learning (PBL) curriculum. The findings of the study revealed that the students' grade point average was a very weak predictor. The pre-test/post-test of the PBL approach on SDLRS scores found a statistically significant increase in average SDLRS scores confirming the positive effect of PBL.

Shokar , Shokar , Romero , and Bulik (2003) studied third-year medical students engaged in a problem-based learning curriculum. They found that the observed mean for the combined group was significantly higher than the mean reported for general adult learners. Their scores were slightly lower than scores reported in studies of other medical students and professionals.

Savoie (1980) was interested determining if it would be possible to predict success in continuing education courses for nurses where learners were expected to assume a high degree of self-direction. Savoie administered the SDLRS and a biographical information instrument to 152 nurses enrolled in one of seven courses. A percent grade for the course served to measure degree of success in the experience. Savoie found that a significant, positive relationship existed between SDLRS scores and course grades. Savoie concluded that a relationship existed between self-directed readiness and individuals' self concept as self-directed learners.

Crook (1985) studied the predictive validity of the SDLRS. Crook sought to determine if the SDLRS score could predict successful outcomes in the nursing education. Sixty-three first-year nursing students completed the SDLRS and a demographic questionnaire during their first week of classes. At the end of the academic year, "students were asked to nominate the three 'most effective' self-directed learners" in their seven to eight member study group. Faculty members did the same for their groups of students. Crook found significant correlation between SDLRS score and two variables; peer nomination scores and end of year grades. Therefore it appears that there is a correlation between high SDLRS scores, self concept and academic achievement.

The SDLRS demonstrated a significant relationship between questions being asked and SDL behaviors in the respondent. The SDLRS lists the attributes of a SD learner as: (1) love of learning, (2) self-concept as an effective learner, and independent learner, (3) tolerance of risk, ambiguity, and complexity in learning, (4) creativity, (5) view of learning as a lifelong, beneficial process, (6) initiative in learning, (7) self-understanding, and (8) acceptance of responsibility for one's own learning.

Despite the controversy surrounding the SDLRS, which employs a large number of negatively worded items, most researchers believe as Brockett and Hiemstra (1991) concluded, "Despite the substantive and methodological concerns, the SDLRS represents an important tool in the understanding of SDL characteristics".

Summary

Ultimately what can be inferred from the SDL literature is a strong focus on the SD learner and the SDL skills they possess at the present time. It becomes evident based on the research findings that a disconnect exists between who is a SD learner and how one acquires SDL skills. For the purposes of this study, it is obvious that implementation of the SDLRS assessment tool is a requisite component to fully understand the extent that CODAs are SDL as compared to other populations. Although the use of the SDLRS is necessary, it is not sufficient to understand how the CODAs in this study developed their SDL skills. Therefore an additional body of knowledge, which focuses on the effects of life events on how one learns, is required to serve as a base of information.

Over the years as the arena of SDL has been broadening, its perspective has been encompassing many other aspects of adult learning under its auspices. Topics of study such as gender, culture, and experiential learning can be subcategorized under the broader heading of Self-Directed Learning. The studies of experiential learning as described below are of particular interest to this study because they offer deeper insight into the development of SDL behaviors.

Experiential Learning as a subset of Self-Directed Learning:

Proudman (1992) defines experiential learning as learning through experience or learning by doing. Lewis and Williams (1994) and Barnett (1989) continue to explain that experiential learning encourages learners to do, then reflect, in order to develop a new understanding, skill or attitude about a given situation

Many researchers believe that CODAs develop their SDL behaviors as a by-product of necessity. As a new situation arises, the CODA refines the previous learned skill set to meet the needs of the present situation. Based on that premise, experiential literature provides a much needed framework to understand how this unique learning phenomenon is facilitated and its relationship with CODAs. Although experiential learning is not the primary focus of this study, the literature related to experiential learning has significant relevancy and provides insight into the development of the CODA learning style.

Historically, experiential learning has it roots within utilitarism, based on the studies of John Dewey (1937). Dewey's believed that "every experience takes up something which has gone before and modifies it for those which will come after." Dewey also professed that "an experience is always what it is because of the transaction taking place between an individual and what, at the time, constitutes his environment." These two statements enable one to conclude that the more the learner and his/her life experiences are inextricably linked, and the more that life experiences become integrated into the formal learning process, the greater the likelihood that the learner will transform into Self- Directed Learners (Merriam & Caffarella, 1999).

The field of experimental learning has many subcategories within it. Examples of various forms of experiential learning that are pertinent to this study are: field based learning, prior learning credit, active learning, and outdoor education.

Field-Based Learning

This oldest of the experiential learning forms is still in use. Field-based learning is predicated upon the belief that when students practice what they are learning, it bridges the learning and solidifies it (Boud 1995; Boud, Cohen & Walker, 1994). Examples of field based learning are the practicum, or internships, which are still used in various forms of medical professional training as well as in teacher education. A newer subset of this education format is student service learning, in which students volunteer their services to community based organizations. Its most critical component is the student's reflection on the experience and the meaning they attribute to it.

Prior Learning Credit

According to Trowler (1996) this strand of experiential learning is utilized by some institutions of higher learning to demonstrate the value placed on the learner's prior knowledge base, which was acquired in a nontraditional mode through real life experiences. This practice is used throughout the world in various formats and varies from institution to institution.

Active Learning

Chickering and Gamson (1987) pioneered this newer form of classroom learning, an educational format that utilizes role playing, games, case studies, and simulations to facilitate the student involvement and reflection on what they did and why they did it.

Outdoor Education

This form of experiential learning is being employed more often in various corporate as well as educational settings. The most well known form of this training is the Outward Bound movement. Within this framework participants learn to work together to overcome obstacles through teamwork and effective communication. As studies of Outward Bound program have proliferated throughout the world, an interesting by-product began to emerge, an "I can" attitude that becomes more prevalent as participants are able to overcome their anxiety and become successful (James, 1990). Overcoming fear is what Ewert (1987) began to study. Ewert found he could employ the Yerkes-Dodson principle, which states that maximum learning occurs when the student's anxiety level it at a moderate level.

The common theme that emanates from all of the experiential models is the need for critical reflection. This aspect of critical reflection is collectively supported by various theorists and can be summarized into three tacits (Cervero, 1988; Ostermann & Kottcamp, 1993; Peters, 1991; Schon, 1983, 1987). The three tacits are:

1. Reflective practice is a tool to determine problem finding and/or problem resolving solutions. In order to find or solve a current situation, reflecting on past events empowers the learner to see the situation differently.
2. Reflective practice enables the learner to make judgment and take appropriate action regarding a current situation.

3. Reflective practice results in some form of action being taken to resolve a current situation.

Schon took the concept of reflective practice one step further. He coined the term "reflection in action." Schon believes that this phenomenon occurs when what has worked previously fails to yield the desired outcome. Therefore the learner is forced to experiment "on the spot." This practice allows the learner to transcend the rules and develop a new way of thinking. Schon believes that those individuals who attain self directedness apply this skill to it fullest on a daily basis.

Summary

Experiential learning, in general, and outdoor education, in particular, provide a needed framework to understand the influences of previous learning experiences on the facilitation of independent thinking. Experiential learning, in conjunction with self-directed learning, provides a stable foundation to further explore how SDL behaviors emerge. Three components derived from the literature can be used to further study the SD learner. The three components that emanate from the literature are: (1) the use of the SDLRS, (2) exploration of pivotal events during the early elementary years, and (3) the aspect of overcoming fear as a facilitator of learning. The combinations of these critical components provide an additional theoretical and practical framework to comprehend and understand relevant sociocultural aspects of the problem being discussed below.

Concluding Statement

This study emanates from three separate but related bodies of knowledge: Deaf Culture, Cognitive development, and SDL. Each component contributes to the significance of the questions explored. The findings of this study may contribute to the body of knowledge of each field of study. Therefore one can conclude that the major strength of this study is that it addresses key developmental factors within the CODA population as they make a transition from a Deaf culture to a Hearing one within the construct of SDL behaviors.

CHAPTER THREE: RESEARCH METHODOLOGY

It is certain that we are not given to reality but have to construct it for ourselves, in our own way, and that in doing so we are conditioned by the culture and worlds we live in. It is natural that our language should embody our world view, the way we perceive and construct reality. The difference between the most diverse spoken languages is small as compared to the difference between speech and sign. Sign differs in its origin and biological mode. Therefore it determines or at least modifies the thought process of those who sign, and gives them a unique and untranslatable, hyper visual cognitive style.

Benjamin Lee Whorf

Overview of the Research Design and Methodology

As I mentioned earlier in Chapter One, I have a passion for the topic of CODAs and, therefore, I am cognizant of the need to represent them well. In order to fully understand and learn how this unique group of individuals learns to function in our society, I needed assistance to develop a thorough approach for studying this population from multiple perspectives.

This research project necessitated that CODAs be studied utilizing both quantitative and qualitative methodologies in order to: (1) ascertain a greater understanding about SD learners, and (2) explore the effects of pivotal events and how they serve as catalysts toward the development of SDL behaviors in adulthood.

The three research questions for this study are:

1. How do CODAs perceive the impact that the key developmental factors, had on the emergence of their Self-Directed Learning behaviors?

2. Which of the identified Self–Directed Learning characteristics are most prevalent in the sample CODA population?

3. How do CODAs understand the influence that the key developmental factors had on the identified Self-Directed Learning characteristics?

I addressed Question 1 through the utilization of a semi-structured interview protocol.

I answered Question 2 through the utilization of the SDLRS questionnaire.

I investigated Question 3 by exploring the relationship between key developmental factors obtained in question 1 and test scores in question 2.

Sample Description

It is important to point out that CODAs are part of the "Hearing" and Deaf communities. None of the current classification systems that define handicap or disabling conditions (WHO, NAGI, National Institute for Rehabilitation Research) include CODAs in their classification system. Although they are hearing, CODAs possess a unique life perspective and learning characteristics due to the fact that they were raised predominantly in a deaf environment during their formative growth and development years.

This study employed a population of CODAs who are registered as sign language interpreters with replacement for the qualitative section. I solicited subjects through various organizational lists that cater to CODAs. The population

from which the sample was drawn met the CODA criteria. Each subject met the following inclusionary criteria:

- CODA
- willingness to participate in the study
- willingness to sign informed consent (for a copy of the informed consent and UCRIHS form, see appendix A)
- located within the United States
- English speaking
- I had no exclusionary criteria

Sampling Methodology:

Quantitative components utilized the following list to procure a population base of 244 persons who are living within the United States. I obtained the list through the Registry of Interpreters for the Deaf. Since I included the entire available population in the study, there was no apriori sampling error. I employed a modified Dillman method to reduce nonrespondence error. All 244 subjects received a SDLRS questionnaire and 124 responded. All subjects who volunteered for the quantitative component received a questionnaire to complete that was submitted prior to the qualitative component. All subjects who volunteered for the qualitative component were combined. I randomly selected eight subjects to be interviewed.

Instrumentation Employed for this Study

I employed two separate tools to provide adequate information to answer the proposed questions. The quantitative component utilized the Self Directed

Learning Readiness Scale (SDLRS) and the qualitative component employed a semi-structure interview protocol.

Quantitative Component

Description of Self Directed Learning Readiness Scale (SDLRS)

The Self-Directed Learning Readiness Scale(SDLRS), as defined by Guglielmino (1996), utilizes a 58-question, five-point Likert scale (always true, sometimes true, usually true, rarely true and almost never true) questionnaire with 41 items positively phrased and 17 negatively phrased. The instrument is designed to measure attitudes, values, and abilities of the learner related to their readiness to engage in SDL. The scores are an aggregate of eight subsets that correspond to SDL characteristics: (1) love of learning, (2) self-concept as an effective, independent learner, (3) tolerance of risk, ambiguity, and complexity in learning, (4) creativity, (5) view of learning as a lifelong, beneficial process, (6) initiative in learning, (7) self-understanding, and (8) acceptance of responsibility for one's own learning. The aggregate score is converted into ranges termed high, above average, average, below average, and low readiness. In addition, a subscale gives ratings based on each of the SDL attributes.

The SDLRS was an integral component to this study due to its versatility for various populations and occupations as well as its ability to assess various SDL characteristics. A review of its utilitarian nature was provided in the literature section of this dissertation.

Validity of the Self-Directed Learning Readiness Scale

To establish validity of the Self-Directed Learning Readiness Scale, Guglielmino used a Delphi technique with a panel of experts to establish congruency. Christian (1983), found convergent or correlational validity at a value of .35 with a p=.01.Russell (1988) found support for divergent or difference validity an r=.31 with a p<.03 Long and Agyekum (1984) also have found support for divergent validity.

Reliability of the Self Directed Learning Readiness Scale

According to Guglielmino, the SDLRS has an internal consistency reliability coefficient of .87. Other researchers (Long & Agyekum 1983, 1984, Finestone 1984, Brockett 1983, Reynolds 1986, Graeve 1987) have validated the internal consistency of this research instrument.

The data demonstrates that the SDLRS is an assessment tool that possesses acceptable reliability and questionable validity by measurement standards. The results of this study may illuminate those factors that may contribute to its low validity; the qualitative component may provide enhanced understanding of the building blocks of the eight SDL characteristics.

Qualitative Component

Description

The interview protocol employed in this study is based on the research conducted by Wendy Luttrell (2000). Luttrell believes that at its core, ethnographic studies strive to find balance between their four basic research elements: creativity, inventiveness, emotionality, and uneasiness. Luttrell describes the realization process the researcher undergoes to fully understand the underpinnings of the subject matter. She stated that this unearthing process enables the researcher to focus on the subject's inner tensions with the subject matter and to shape subsequent interviews to ascertain the underlining rationale for the conflict. Luttrell concludes that no matter how thorough the intentions of the researcher, the results can always be suspect. Therefore Luttrell found it imperative to introduce the concept of "good enough ethnography," which she based on Winnocott's (1965) "good enough mothering." The concept states that no matter how well intentioned, whether it is ethnographies or parenting, mistakes will be made and those errors need to be acknowledged and recognized that ultimate perfection is a panacea.

By definition, validity is the degree to which researchers measure what they intend to measure and reliability is the ability to obtain similar results on subsequent trials (Koosis, 1995). Therefore one can conclude that interviews have a higher degree of validity than reliability. The richness of the lifestories of the subjects ultimately provides greater meaning to this study.

I designed the questions utilized in the semi-structured interview protocol based on the eight characteristics of a SD leaner based on Guglielmino. Each characteristic has identified questions associated with it, designed to ascertain relevant information that pertains to pivotal events and how those events manifest themselves in adulthood. One explicit purpose of this study is to use the perception of the subjects to gain greater insight into how their early academic environment facilitated the development of SD learning behaviors, along with implications for SD learning in adulthood.

Traditionally it is accepted that qualitative analysis is fraught with the inherent pitfall of subjectivity. This study does not differ, and ultimately the interview protocol is based on the subjects' perception and therefore has an inherent bias. I designed the semi-structured interview questions to illicit concepts that are aligned with the dissertation's intended outcome.

The concept of bias can be viewed from two very distinct perspectives. The first way is systems perspective, which, according to many qualitative critics, states that researchers tend to interpret their results in ways that favor a particular perspective. Many scholars such as Kamin (1977), Macintosh (1981), and Freeman (1983) believe that qualitative research is fraught with bias. According to Hammersley and Atkinson (1995), the areas associated with qualitative analysis bias are:

1. Design bias can appear when the researcher fails to identify a valid problem. This situation creates an effect if the sample is narrow, which yields a regression effect.

2. Measurement bias occurs when the data collected is influenced by societal norms.
3. Sampling bias occurs when the research projects studies a narrow segment of a specific population.
4 Procedural bias can occur if the subjects are influenced by an adverse condition, which skews the data obtained.
5 Type three error problem bias, which occurs when the research project solves the wrong problem.

Social Construct Bias

Khilnani (1997), who offers a second perspective on qualitative research bias, believes that qualitative research allows a unique perspective to be shared that facilitates a greater understanding about a particular problem. This belief is rooted in a social construct of qualitative analysis because it is concerned with the perspective of the subject (Finestone, 1984; and Jarvis, 1987). The utilization of a focused interview designed to ascertain specific information pertaining to a specified topic is a proven useful tool (Neumann, 1991). In addition, Merton and Kendal (1946) advocate the use of open-ended questions to fully explore the feelings or beliefs about the significance of pivotal life events.

Ultimately when I examined these two unique works on qualitative analysis, I whittled it down to trustworthiness. The value of storytelling or chronicling a life experience does not demand objectivity. Its purpose is illumination of the individual's life journey and what can be learned from it (Armstrong, 1987).

This study is predicated upon the assumption that there is truth and value in both quantitative and qualitative perspectives. Qualitative research has a unique benefit in that it can illicit information pertaining to specific life events and the meaning ascribed to them, which can not be obtained in any other way. In an effort to strengthen the validity and reliability alluded to earlier in the quantative section, for this study I elected to include a qualitative framework.

In an effort to control for bias in this dissertation, I employed a semi-structured interview format for each subject to control for error within the interview session and across interview sessions. The semi-structured interview protocol focused on critical incidents in the early years of the education process when the transition from a Deaf world to the hearing one was most conspicuous. A copy of the interview protocol is in Appendix F.

Protocol

For every session I recorded and transcribed the data. The researcher also took notes during the session. Ultimately in analyzing the data, I sought to unearth similarities among interviewed subjects in order to gain greater insight into the effects that environment has on SDL. In addition, I wanted to study the relationship between the findings from the interview with the aggregate and sub score results of the SDLRS.

Analysis of the Data

Question 1: *How do CODAs perceive the impact that the key developmental factors had on the emergence of their Self-Directed Learning behaviors?*

The mechanism I employed to answer this question consisted of an analysis of the developmental factors determined by recurrent themes in the interview process and reported in a narrative style.

Question 2: *Which of the identified Self–Directed Learning characteristics are most prevalent in the sample CODA population?*

To answer this question, I used test scores of the Self-Directed Learners Readiness Scale, a five-point Likert scale, and reported them as a percentage of the subtests and aggregate test scores.

Question 3: *How do CODAs understand the influence that the key developmental factors had on the identified Self-Directed Learning characteristics?*

To determine a relationship between test scores and developmental factors, I utilized a chi square analysis to determine significance of scores and the presence or absence of a particular listed developmental factor.

Note that within the SDLRS subset questions, I found an inequality between the number of questions utilized for each characteristic. The majority of characteristics have seven questions: the characteristics of self understanding and acceptance of responsibility of one's own learning have eight questions each. In order to assure that each item had similar scores, I employed the weighting function on the SPSS program so that the maximum any characteristic

could achieve was 35 points

CHAPTER FOUR: ANALYSIS OF THE RESEARCH RESULTS

There is no such thing as a human nature independent of culture. Men without culture would not be...the nature's noblemen of Enlightenment primitivism....They would be unworkable monstrosities with very few instincts, fewer sentiments and no intellect: mental basket cases. Our central nervous system and most particularly its crowning curse and glory, the neocortex grew up in great part in interaction with culture, it is incapable of directing our behavior or organizing our experience without the guidance provided by systems of significant symbols. We are, in sum, incomplete or unfinished animals who complete or finish ourselves through culture

Clifford Geertz

Section A: Quantative Analysis

Discussion of the Research Results

According to Guglielmino (1977) the mean score for a self-directed learner is 214 on the SDLRS with a SD= 26.0, signifying a very wide bell shaped curve. My study demonstrated that the mean score for the CODA population employed is 205 with a SD= 11.4 signifying a narrower bell shaped curve. This comparative data indicates that sample CODA population used in my study is approaching what would be considered "normal" scores for a self-directed learner. One significant difference that could account for the discrepancy between the two groups is the heterogeneous nature of Guglielmino's population and the variability of environmental factors and learning styles of the subjects. The

multifactoral nature of those variables creates a fairly large SD. The subjects used in my study were considerably more homogenous and the variability between environmental factors and learning style is limited, thus yielding a smaller SD. Due to the incongruence between the two groups, it would be irresponsible to employ the raw score of the SDLRS as a final determinant of SDL status for the CODA population used in this study.

To further understand the CODA population and what would cause them to considered self-directed learners, a deeper investigation into their learning habits was required. This research project utilized both quantitative and qualitative methodologies in an effort to ascertain a greater understanding about CODAs as SD learners and to explore the effects of pivotal events in the lives of CODAs and how they serve as a catalyst toward the development of SDL behaviors in adulthood. This section reports each of the primary research questions.

To accurately reflect the key developmental factors and the identified SDL characteristics, I needed to establish a decision rule. I employed a one third, two thirds rule, meaning I would compare those items which ranked in the upper 66.6 percentile for both the qualitative and quantitative data. This decision ruled enabled me to conclude that a meaningful presence exists

First Research Question:

How do CODAs perceive the impact that the key developmental factors had on the emergence of their Self-Directed Learning behaviors

Based on the content of the eight interviews, In Table I an assessment of the data reveals that the key developmental factors are love of learning and self

directedness, each accounting for 87.5 % of the total respondents or 7 out of 8 respondents. These two areas juxtaposed indicate an inextricable link as evidenced by identical scoring. The data indicates in the CODA population, loving to learn and self directedness have a reciprocal relationship in which reciprocal causality may be implied

Table 1. Interview Data

Character-stics	Subj. 1	Subj. 2	Subj. 3	Subj. 4	Subj. 5	Subj. 6	Subj. 7	Subj. 8	% of Subj.
Love of Learning	X	X	X	X	X	X	X		87.5
Self directed-ness	X	X	X	X	X	X	X		87.5
Tolerance of Ambiguity	X	X		X		X	X		62.5
Creativity	X		X				X		37.5
Lifelong learning	X	X		X					37.5
Initiation		X		X		X	X	X	62.5
Self-awareness	X	X	X		X	X			62.5
Acceptance of Responsibility For one's Learning	X	X		X					37.5

Second Research Question

Which of the identified Self –Directed Learning characteristics are most prevalent in the sample CODA population? To answer to this question I analyzed of the questionnaire data in Table 2.

Table 2. Questionnaire Data -SDLRS

Characteristics	Mean	SD	Rank
Love of Learning	28.2	2.91	1
Self-Directedness	25.6	2.81	2*
Tolerance of Ambiguity	22.8	2.19	7
Creativity	23.1	2.56	6
Lifelong Learning	24.8	2.09	4
Initiation	22.2	2.28	8
Self-Awareness	24.0	2.23	5
Acceptance of Responsibility for One's Learning	25.6	2.28	3*

*= tied ranking

In keeping with the one third, two thirds decision rule, the data indicate that three characteristics exceed the decision rule: love of learning, self directedness and an acceptance of responsibility for one's learning. These three items examined in their totality indicate a marked similarity with the results of the data

in question 1, with one added dimension. In the CODA population it appears that the more one loves to learn, the more self directed one becomes and ultimately the more likely one is to assume responsibility for his/her learning.

In addition to the questionnaire data, I obtained demographic data from the respondents. In Table 3 I compiled the results from this additional information and cross tabulated them with the 8 characteristics of a self-directed learner.

Table 3. Demographic Data -CHI-Square: Relationship between Demographic information and SDL Characteristics

Characteristics	Gender	Education	Age	Sign frequency	Birth Order
Love of learning					
Self Directedness					
Tolerance of Ambiguity					.052
Creativity		+		+	
Lifelong Learning				+	
Initiation					
Self concept				+	
Acceptance of Responsibility For one's learning		+		+	

Results show that three out of five demographic categories had a significant relationship with one or more of the eight learning characteristics, assuming birth order at .052, which approaches significance is meaningful. The categories are education, sign frequency and birth order. Sign frequency had the highest amount of occurrences with four out of eight characteristics, education with one

out of eight, and birth order with one borderline occurrence. Of the eight characteristics, creativity had the highest frequency occurring in education as well as in sign frequency. Education had an inverse relationship with creativity, with 83% of the respondents having a four-year degree or less. The more frequently the respondents signed, the higher their level of creativity.

Examining these two relationships, it is possible to infer that signing involves a heighten sense of abstract thought or creativity. Whereas the more one advances in higher education, the more the one needs to achieve a set of predetermined educational objectives, ultimately suggesting that for this population, advance educational pursuits tend to stifle the creative process.

The other characteristics identified with sign frequency are lifelong learning, acceptance of responsibility for one's own learning and self awareness. This suggests that to sign proficiently, one must constantly seek to learn and develop new signs to communicate thoughts and ideas that reflect changes in society. Through discussion with the subjects, it was clear that signing is more that just a language, it is an expression of personal identity (use of facial expression, body language, interpersonal distance) and, therefore, serves as an extension of self. During the interviews it was apparent that the majority of the subjects had a high interpersonal reach with the interviewer.

Last, birth order was inversely related to tolerance of ambiguity. The lack of tolerance toward ambiguity is higher (60%) with those who were first born and least (13%) with those of who were middle children. This suggests that the burden for clear understanding and ability to communicate with the hearing world

rested with the eldest child. The youngest child represents the last link with the hearing world for the deaf parents, while the middle child may or may not have that burden placed upon his/her shoulder

Third Research Question

How do CODAs understand the influence that the key developmental factors had on the identified Self-Directed Learning characteristics? To address this question I compared the findings of the two previous questions. I applied the one third, two thirds rule. Table 4 illustrates the relationship between the data obtained in questions 1 and 2.

Table 4: Developmental Factors vs. SDL characteristics

	Interview Data	SDLRS Data
Top3 (including tied ranks)	Love of learning Self directness Self awareness Tolerance of ambiguity	Love of learning Self directedness Acceptance of responsibility for one's learning
Residual ranks	Lifelong learning Acceptance of responsibility for one's learning Initiation Creativity	Lifelong learning Self awareness Creativity Tolerance of Ambiguity Initiation

The data clearly demonstrate a consistent overlap around the items of love of learning and self directedness. As mentioned previously, these two items have a direct, meaningful, and reciprocal relationship. In addition, one can see that love of learning and self directedness are interrelated, thus yielding an acceptance of responsibility for one's leaning. The congruency of the data sets reinforces the initial premise of the study, which is that growing up as a CODA tends to facilitate specific self-directed learning behaviors in adulthood. An obvious inconsistency centers on the characteristics of acceptance of responsibility for one's learning

and initiation. It ranked lowest in the key developmental factors but it exceeded the 1/3 decision rule for self-directed learning characteristics. These inconsistencies can be explained by the differential definitions between the interview and the questionnaire. The questionnaire on the topic of acceptance of responsibility for one's learning focused on items such as "no one but me is responsible for what I learn." The interview process sought out information such a situation in which the learner altered the environment to meet his/her educational needs. The questionnaire on the topic of initiation focused on items such as "I am better than most people are at trying to find out the things I need to know"; the interview process sought out information such as a situation in which the learner had significant life-altering events with a maternal figure who instilled the confidence to achieve. These inconsistencies add to the richness of the data in that it indicates that to fully assess self-directed learning in CODAs, issues associated with the SDL characteristics and their underlining meaning need to be explored in greater detail adding to the enhanced validity ascribed to this intervention.

The data analysis demonstrates the following three critical relationships:

1. Love of learning and self directedness are key factors in self-directed learning behaviors in CODAs.
2. Love of learning and self directedness are not influenced by demographic data.
3. Sign frequency has a major developmental impact and influence on

creativity, lifelong learning, self awareness, and acceptance of responsibility for one's learning.

Data obtained in a more traditional questionnaire methodology may not fully illicit the factors causing the self-directed learning behaviors in CODAs. To explore this topic further, the next section utilizes various the life stories of eight CODAs in order to develop a greater appreciation for the situation and circumstances that facilitated the development of these key developmental factors and characteristics.

Section B: Qualitative Analysis

No one in the world knew what truth was till someone had told a story. It was not there in the moment of lightning or the cry of the beast, but in the story of those things afterwards, making them part of human life. Our distance savage ancestor glorified as he told, or acted out, or danced, the story of the great kill in the dark forest, and that story entered the life of the tribe and by it the tribe came to know itself. O such a day we fought against the beast and won, and here we live to tell the tale. A tale much embellished but truthful even so, for truth is not simply what happened but how we felt about it when it was happening, and how we feel about it now

J. Rous

The purpose of this section is to provide greater insight into the topic of self-directed learning within the CODA population, in order to better understand how self-directed learning behaviors developed within this population. This section provides interview narratives regarding pivotal events within the lives of the subjects. I selected portions from all of the eight subjects I interviewed to illustrate how the SDL characteristic was influenced by their early life events.

Subject Profiles

Subject 1, a 60-year-old male, has one older sibling and one younger sibling who are also CODAs. Subject 1 signs weekly and is married to a spouse who is hearing as well. Subject 1 has two children who are hearing and are proficient

signers.

Subject 2, a 54 –year-old male, has one younger sibling who is also a CODA. Subject 2 signs on a weekly basis, is not married, and has no children. Subject 2 has a master's degree in social work and also is a certified sign interpreter.

Subject 3, a 38-year-old male, has one older sibling who is a CODA as well. Subject 3 signs daily and is married to a CODA. Subject 3 has two hearing children and two step children whose biological father is Deaf. Subject 3 is completing his PhD and is currently employed as an administrator.

Subject 4, a 58-year-old female, has no siblings. Subject 4 signs daily and is not married and has four children who are proficient signers. Subject 4 has an associate's degree and is employed as an interpreter and a tutor.

Subject 5, a 58-year-old female, has one younger sibling who is a CODA as well. Subject 5 signs daily and is married. Subject 5 has no children and did not offer her level of education nor occupation.

Subject 6, a 48-year-old female, has three older siblings who are also CODAs. Subject 6 signs daily and is married to a spouse who is hearing. Subject 6 has two children who are proficient signers. Subject 6 has an associate's degree and is employed as a sign-language interpreter.

Subject 7, a 55-year-old female, has one older sibling who is a CODA. Subject 7 signs daily and is married to a spouse who is hearing. Subject 7 has two children who are proficient signers. Subject 7 has a master's degree and is employed as a teacher and an administrator. Subject 7 has her own school for American Sign Language interpreters.

Subject 8, a 64-year-old male, has one older sibling who is also a CODA. Subject 8 signs daily and is divorced from a spouse who is hearing. Subject 8 has three children who are hearing and sign occasionally. Subject 8 has two master's degrees and is employed as an educator and sign-language interpreter.

Life Story Examples as it Relates to the 8 Self-Directed Learning Characteristics

Self-Concept

Self-concept as an effective, independent learner is an awareness or consciousness of one's ability or capacity to generate knowledge that is autonomous, or free from external influence. Within the educational community an effective or independent learner can produce a body of work demonstrating independent thought consistent with the information being presented within a formalize curriculum on a topic assigned by the educator. After interviewing CODAs it became obvious that they defined their self-concept as an effective, independent learner as connected with an event for which he/she had to serve as an interpreter for his/her Deaf parent(s). The subjects interviewed related significant life events for which they could recall being required to serve as interpreters for their parents.

Subjects I interviewed recalled that these pivotal events occurred during critical developmental stages, in particular, early childhood or pre-pubescence. All the subjects interviewed retold these events with fondness and a belief that the situation fostered a sense of responsibility for their parents and their family in general.

The following life stories are subdivided into two distinct categories: those subjects who served as an interpreter for their parents during the early years of their childhood and those who served as an interpreter for their parents during the pre-pubescent years.

Self-concept as an effective, independent learner subcategory 1: Subjects who served as interpreters for their parents during the early years of their childhood

> As a young child of 8 or 9, I remember being marched in and having to interpret for my father. This incident in particular he took me to an automobile guy who fixed his car, and he says he is not happy, and fuck you and you are taking advantage of me because I am Deaf. I do not like it and I want my money back, blah, blah, and blah. I was supposed to interpret all this for that guy. I would take what he did and said, because I was so embarrassed and I hate being in that position, and I would say my father is upset with you, and he would like this and that, and I would try to make it as stern as a child could make it serious enough for the man to understand that my father meant business. And my father would look at me and say you got to do these kinds of things to get what you want, and I would nod my head (The subject was laughing during the interview).

Another subject recounted a similar situation when at a young age was required to serve as a bridge between the Hearing and the Deaf world.

> I was too young to actually be the instigator of the resolution, but my mother at a parent-teacher conference did her best to set the teacher in the right direction, explaining to her that I was left-handed and it was appropriate for me to be a lefty. I recall being there and doing some of the interpretation, some of it was done by notes passed between them, but some was done by me interpreting, and a strange

experience to be interpreting about me, and something that was very important to me.

This subject had the epiphany of the importance of being the bridge, in order to protect her parents.

I remember being in elementary school and seeing from my parents face that they were misunderstanding, and thinking that maybe they were being taken advantage of or not being given their full rights and I would smooth it over. I would explain that no, no, no, that was not what he meant, or she meant it this way. You know, trying to explain no, no, that is how it goes, that is how people take care of things. It was an adult approach at a young age which I did a lot.

There exists a consistency with which each subject viewed his/her role as a bridge or interpreter as a duty and not as a burden. This subject best illustrates this point as she reflects on her childhood.

My inhibitions about my parents being Deaf were limited to school events. Outside of school it was not inhibitions because I had to do interpreting for my parents since I was four years old. It was only at school because I did not like the cruelty that kids had at school.

Self-concept as an effective, independent learner subcategory 1: Subjects who serve as an interpreter for their parents during the early years of their adolescence

As a preadolescent, my parents could not afford to buy a house so they bought a lot instead. I had to interpret for them so that they

could buy the lot on "time." In addition, I had to interpret for them when we had to find a builder. The builder said he would be willing to pay off the lot and take a second mortgage on the house.

It was curious when this subject shared that despite changes in society and technology, many Deaf people still rely on their children to serve as the link between the Hearing and Deaf worlds. "My mother was very fearful of communicating because she did not have a good voice. She was very nervous and would never type on a TTY so of course I would have to do it for her."

Self-concept as an effective, independent learner did not demonstrate a significant correlation with the demographic data, however as evident from the subjects' recounting, insight can be inferred. All the subjects were placed into situations for which they had no prior life experiences to guide them. They all had to use what knowledge they possessed about the Hearing culture and transfer that skill set to this unique novel situation. The subjects remarked how they were concerned about the welfare of their loved ones and wanted to protect them from being taken advantage of by less scrupulous individuals. There is no supporting literature to refute or support the influence of events of this sort in the development of self-directed learning characteristics.

O'Loughlin (1997), Palladino. and Young, (2003) believe that individuals who have experienced episodes of marginalization during their early childhood development integrate those life experiences into their decision making process as an adult. This act of critical thinking that incorporates emotional charged issues is a form of spatio-temporal learning. The learner develops a decision

making framework based on what they saw and felt during their early developmental years, which then evolves into mechanism to understand future life events.

A statistical significance exists between sign frequency or how often all the subjects in the study signed and self-directed learning characteristic; self-concept (see Table 3: Demographic data). Signing was the first language for all subjects in this study, and consequently an integral component of their decision-making process. The bilingual nature of CODAs means that they possess an understanding and an appreciation for both the Deaf and Hearing cultures. One can infer based on the life events recounted above a sense of responsibility for another, an increased awareness and empathy for those less fortunate than oneself. The subjects interviewed all reported a greater sense of civic responsibility. The self reporting of the subjects employed in this study mirror the beliefs of an educational offshoot of experiential education known as character education. Typically, the goals of character education are to help children become morally responsible, self-disciplined citizens (McBrien & Brandt, 1997). However, a significant difference between these two groups (CODAs and character-building educators) exists. The educators skilled in character-education serve as facilitators to the learners. CODAs use specific situations to learn and they reflect on whether the desired outcome was achieved. This process serves as a catalyst for character building learning. Eventually the end result from this character education learning process is an adult who views the world and life situations through a civic-minded perspective.

Life Story Examples as They Relate to the 8 Self-Directed Learning Characteristics

Lifelong Learning

View of learning as a lifelong, beneficial process is defined as a continuous educational process that promotes self-enrichment based on originality, expressiveness, and imaginativeness. My impression is that within the educational community, lifelong learning is generally believed to be 'the learning pathway of an individual throughout their lifetime, which is initiated at during the developmental years, refining itself through schooling and other formal and non-formal types of learning, and continues throughout adult life."

After interviewing the subjects, it appears that they view lifelong learning as a beneficial process, which developed originally based on an affinity for mathematics. They believed that their success with mathematics, coupled with a positive interactions associated with mathematics, influenced their confidence to do other later-life learning tasks. Danna (1998) believes that positive learning experiences in school with teachers and various subjects promote a "can do" attitude towards learning. For example, if we experienced success in mathematics classes, we are more likely to view a math problem such as balancing a checkbook in an optimistic light. But for individuals who had a bad math experience, math will be perceived in a negative light affecting their success with all forms of mathematics—sometimes leading to math anxiety. The CODAs interviewed in this study recalled the pivotal event that served as a

catalyst for their lifelong learning.

This person typifies the CODA perceptive on lifelong learning. "I remember learning my multiplication tables and how it made me feel that I was good with numbers and I continued to work with numbers of all sorts."

Others reflected and recalled with fondness the person who served as the facilitator of their love of learning.

> I remember in the mornings my grandfather would teach me my multiplication tables. He started with me like 5 times 5 and stuff like that. Then all of the sudden I just found myself when I was doing my math by myself. I think it showed me that you really do not have to do everything on your own, you can ask for a little help, and that little help helps you to do it on your own.

It became apparent that other subjects saw view of learning as a lifelong, beneficial process; using a different perspective. They viewed view of learning as a lifelong, beneficial process; not based on mathematical skills, but as a by-product of their ability to sign well. They believed the more they signed the more the needed to use psychomotor manipulation as a critical component to their learning. This link between view of learning as a lifelong, beneficial process and sign frequency was an area which demonstrated statistical significance in the data analysis (see Table 3).To further illustrate this point, I use additional examples that the subjects shared during the interview process.

The need to understand the world through psychomotor learning is not limited to formal situations but it has applications in all aspects of a child's life.

I can remember a time in 6th grade when I desperately wanted to know how to shoot a basketball into a hoop. Because I had missed a shot during a practice, and I was heckled by some during practice, I started constantly practicing until I could get the ball into the hoop, or at least try to figure out what it meant and felt when I did it right. When I figured out how my arm was supposed to feel when the ball left my hand, I don't know how to describe that very well, but if you are doing a free throw, there is a way you are supposed to flick your wrist, pretty much. If you do that right you can feel it. And the first time I felt that, I remember feeling joy immediately even before the ball went into the basket, I could tell I had done it right and I felt really good about it.

Still others saw the need to understand the world psychomotorly in all aspects of their life.

From a very young age I used to take things apart. I would take it apart and put it back together, and plug it in and if it worked I knew I did something right, if it didn't, oh well, I would take it apart again and figure out what I had done to make it not work. That sort of thing might have been learning by trial and error.

Others can see the ramifications of the being a psychomotor learn in their everyday adult lives.

Let me put it this way, if somebody says to me, I want you to learn this, let's say a computer. I have had that incident not too long ago,

and I know for myself, that I understand [things] better visually, tactilely. [If you] show me what you want me to do, I will reason this backwards and forwards and get the picture. But if I have to sit and have somebody tell it to me, I know it will not be as effective. So I won't even waste that person's time. So before I will say, if you will just show me, it will go much quicker.

This subject explained that in his life, psychomotor understanding is more than learning, it is his sense of self. "Well, it was a sense of closure, a sense of accomplishment that I could do something from beginning to end. I mean there are a lot of things that I have done manually, you know, with my hands that from beginning to end. That for me is the package deal."

Reflecting on these stories that the subjects shared, it becomes evident that each has his/her own way of interpreting life events and the implications of those pivotal events in the manner in which they manifest themselves in adulthood. Even though the characteristic of viewing learning as a lifelong, beneficial process and the how often the subject's signs are statistically significant, the unique key is how that relationship manifests itself within the subject's life. All the subjects related how they need to use their hands to understand how things work within their own environment. This type of making sense of one's environment is consistent with the psychomotor learning process. According to McCarthy (1986), psychomotor learning is defined as a right cerebral hemisphere process which focuses on aesthetics, feelings and creativity. According the Herriman (1988), learners who are right brain dominant tend to be: (1) intuitive, (2) holistic, (3)

subjective in their orientation, (4) able to synthesize information, and (5) see the "big picture." This information is consistent with what we know about CODAs, because they learn to communicate with their hands from an early age.

In addition, this mechanism for transferring of information tends to utilize the right hemisphere of the cerebral cortex. Sign language requires that the person utilize the left hemisphere to analyze the symbols and then be able to express large thoughts, ideas and concepts through the use of symbols, and that the recipient of the information to interpret those gestures and ascribe an accurate meaning to them. Based on the use of symbols to express thoughts and ideas, one can see the connection between mathematics, which is also a left brain activity. As stated previously, those individuals who sign frequently use both their right and left cerebral hemispheres in tandem, and, therefore, CODAs are more apt to have a psychomotor orientation for their learning in conjunction with their left side to offer critical analysis.

Various researchers have found that there is a direct correlation to mathematic skills and spatio-temporal learning. Zarfaty, Nunes and Bryant (2004) discovered that when numerical information is initially presented in a spatial array format, children who are deaf develop a conceptual understanding which they can employ in a multitude of life settings. Konradt (2004) concluded that spatio-temporal learners require active involvement within their environment. In this study, subjects were taught the mathematical concepts within the social construct of their home environment. This "open" or free learning situation enables the learner to establish the relationship and process the information being presented

without barriers or limitations. Lien and Ruthruff (2004) concluded that early integration of numerical understanding where the learner is able to create an interconnection with the material presented has a long standing effect on their ability to create abstract links to other life events.

Calvin (1996) believes that an integral component to successful spatio-temporal learning is the need for kinesthesia. The individual requires the proprioceptive feedback in an effort to fully comprehend the intellectual construct. Hipp, Einhauser, Conradt, and Konig, (2005) found that successful integration of spatio-temporal learning requires somato-sensory input. They concluded that sensory stimuli triggers spatio-temporal filter, thus optimizing temporal coherence.

There was a statistical significance between sign frequency and self-directed learning characteristic and lifelong learning (see Table 3: Demographic data). Therefore one can conclude that signing is an extension of the person and, consequently, an integral component of their decision making process. Clearly, their ability to sign did influence their ability to physical manipulate learning situations that arose during their life journeys. Each time a situation developed that required them to use that psychomotor learning approach, that frequently adopted strategy is the process that enabled them to be successful with new life challenges.

Life Story Examples as They Relate to the 8 Self-Directed Learning Characteristics

Tolerance of Ambiguity

Tolerance of risk, ambiguity, and complexity in learning is a permissible deviation of a predetermined course involving uncertainty, or susceptibility to multiple interpretations of the relationship between the components of the process. Educationally, tolerance toward ambiguity is consistent with learner acceptance that there may be more than one truth about given subject matter. After interviewing the subjects, CODAs defined tolerance of risk, ambiguity, and complexity in learning as an event, that was useful in clarifying instructions or constantly posing questions in order to obtain a better understanding of the task at hand. Ultimately this translated into a lack of tolerance for ambiguity. It should be noted that the subjects interviewed did not shy away from risk or complex tasks, but they had a permanent need to fully comprehend what was being asked of them.

As stated previously in Chapter 3, birth order was inversely related to tolerance of ambiguity. The lack of tolerance toward ambiguity is higher (60%) with those who were first born and least (13%) with those of who were middle children. This suggests that the burden for clear understanding and ability to communicate with the hearing world rested with the eldest child. The need to fully understand what is being asked coupled with the inverse relationship with birth order creates a situation in which CODAs internalize a strong sense of responsibility for those they perceived are in their care. The following series of

recollections from various subjects, further illustrate how CODAs perceive ambiguity, and the need to seek clarification.

I try to make whoever is doing or stating the ambiguity in a more intelligible or understandable way. I find that I had a strong need to question in an effort to decipher the English language which is quite different than ASL. I find myself asking for things to be clarified. Going for deeper meanings, tell me what you are looking for. I still have not mastered the English language; my wife rewrites everything I write.

I have an inquisitive and curious nature. I remember when I was in 5th grade the teacher wrote on my report card, subject is a question box. Once the teachers learned that my parents were deaf they looked at me differently. As I look back on that, I think that a lot of my questions were due to my lack of understanding about how things related to the world I did not understand. Because my parents did not have the answers about the outside world. I remember a time when we were talking about cows. Every time they mentioned the word udders. I was unaware of what that was, and a kid in the class said it was the teats on a cow. Everyone laughed; I just never heard that word before. I asked questions to reaffirm that I did understand the question and I knew the answer.

I will be perfectly honest, if something is ambiguous or complex I think I can figure it out. But totally ambiguous I am lost. To tell you

the truth I ask as many questions as I can to learn as much about a topic as possible. And then you know I try to do it, try and if I do fine, that is okay. If not, I will still go back and ask for help. Once in a while if it is explained to me I can go ahead and I do not like ambiguity I am very black and white. I struggle with ambiguity. I am very methodical when it comes to learning. It has to be very clear and I have to know what I am doing. I am a very visual learner, I do not learn well with auditory information. I have to see things, graph them out and that type of thing.

I do not like ambiguity. I like things to be very clear. I like to have things understood or made, I like to make things understood easily. I think it has to do with my background making sure information is understood, language is clear, for both myself and my parents.

Upon further reflection on the responses of those subjects participating in this study, there appears to be a juxtaposition of two essential theories that may provide additional insight into the formation of this unique behavior. The two theories interacting are those of action learning and that of the divisiveness between the Hearing and Deaf communities.

Within the contextual framework of experiential learning is a subset known as Action Learning. According to Lewis and Williams (1994), action learning is predicated upon the following tenet: learners engage in ambiguous and complex learning situations in order to promote and facilitate a confrontation between theory and practice. Learners use personal feelings and philosophies to fill in the

gap between theory and practical application. The critical component to the learning process is reflection and debriefing. The more that the facilitator guides the learner to make or extract meaning, the more enhanced is their comfort zone with ambiguous situations.

Selby and Pike (2000) describe the need for a less structured environment as a mechanism to promote spatio-temporal learning. The open learning format creates an opportunity for the learner to find the interconnectivity which is consistent with his/her learning style.

However, in the case of the CODAs, they do not have significant life experiences to draw upon secondary to the pivotal life events occur early in their childhood. In addition, the facilitator is typically the parent, who according to Mimoun (1989) has a distrust of the hearing world and a skewed view of what the mores and values are compared to those of the Deaf world. To illustrate how this distrust from early in their childhood remained throughout life, I share a quote from one of the interviewed subjects. The context of the quote is based on the subject's leeriness to participate in this study.

> Some what, in I was concerned before I started that I am always concerned whenever a person who is not a member of the community of deaf people wants to study deaf people or CODA's, or deaf children, or anybody related to the deaf community. I am always concerned about their motivation, and I am sure that it should be nothing new, some wariness on the part of participants. As far as what the outcome will be, because there has been a lot of research

that hasn't been very good for the community, I guess that is one of the things that caused me to be curious about that. As though the results may point to a lack of the part of deaf parents and I thought that might be based on less information about how, or in my opinion, the fact that in a deaf home the interactions between a deaf parent and hearing child who can sign are very similar to many interactions that occur in many families with hearing people that speak the same language.

Ultimately, this type of early childhood development leads to an understanding of the world, which is based on personal perception (Mimoun, 1989). It stands to reason that when you have a high stress learning situation and a preconceived perception of the environment or the people within the environment, the end result will be one of mistrust of the unknown. This translates into a need to fully comprehend what is being asked prior to engaging in the learning task.

Life Story Examples as They Relate to the 8 Self-Directed Learning Characteristics

Self Understanding

Self understanding is defined as strong awareness and judgment about oneself. The educational community sees self understanding in terms of learning style or ways of knowing. Gardner (1978) defines multiple intelligence, or ways of knowing, as "the ability to find and solve problems and create products of value in one's culture." The seven forms of intelligence include: linguistic, logical-mathematical, spatial, bodily, kinesthetic, musical, interpersonal, and intrapersonal (Campbell, 1992). The underlying framework for the use of multiple intelligences in the classroom is being aware of these different learning modes and the ways in which learners exhibit intelligence. CODAs view self understanding as a transformative process, occurring when they realize that they feel or view themselves as a Deaf person. This revelation of CODA self understanding manifests itself and directly impacts them as lifelong learners, because it defines them culturally. The subjects participating in this study provided insight into how this self understanding characteristic influenced their lives from a personal growth and/or educational perspective. All the subjects interviewed reflected on the issue of self understanding and offered situations to illustrate their defined CODA perspective.

> I never viewed learning to communicate with my parents as a problem, as much learning how to communicate with hearing people. I would say that the language barrier made me feel like I was deaf.

The fact that I had to learn how to communicate with the hearing world forced me to dig [study the situation] to figure things out. After the incident with not knowing about what an udder was [when learning about animals, the teacher talked about a cow's udder, subject asked what it was, everyone else knew what it was] it became obvious to me that there words lots of words, ideas, things and concepts that were commonly discussed in other households. I remember looking back and thinking that me with deaf parents did not get these concepts because they only were part of the hearing world.

In first grade, I was taught to write with my right hand, and I am left-handed, that is my talking hand in sign language. And I knew I was left-handed when I went into that grade. And when the teacher was correcting me and telling me that I had to write with the other hand, I was more than a little confused and that required a great deal of intervention on the part of others to convince the school that was right for me to write with my left hand. It was a very [demoralizing], I felt like I was being denied like a very innate right, so -- and it felt very foreign to write with my right hand. Subsequently I taught myself to write with my right hand just because that experience was so unnerving, I guess. I was curious to know what it would mean to write with my right hand. I was too young to actually be the instigator of the resolution, but my mother at a parent-teacher conference did

her best to set the teacher in the right direction, explaining to her that, I was left-handed and it was appropriate for me to be a lefty. I recall being there and doing some of the interpretation, some of it was done by notes passed between them, but some was done by me interpreting, and a strange experience to be interpreting about me, and something that was very important to me.

During the day I felt I was a hearing person, but at night I felt like a deaf person, because my mother would tell me beautiful stories. She would rock me to sleep with her voice which was not clear, but I know it. It was the time when she and I were alone. She would tell me stories and I developed a love for my Deaf culture.

I try to see the other person's viewpoint. I think this developed because of the dealings between my parents and the hearing world. I would think to myself that what the hearing world is trying to say and explain it to my parents. I knew how my parents felt about it and I would try to communicate it, you get to know the whole picture and get them to meet halfway.

As a child my father would have my brother and I read a book all week long and on Saturday, we were to give an oral report in sign. We had to be creative and he would ask us questions based on our report.

Reflecting on the stories that the subjects shared, it is obvious that their sense of self is inextricably linked to their early development as part of the Deaf

community. As mentioned previously, Higgins (1992) stated that the level of ones acceptance into the Deaf community is based on your ability to sign well. Thus we see a link that is statistically significant between self understanding and sign frequency. Sign language is a visual medium, to effectively use sign language it requires that one immerses oneself into the conversation to fully convey your true intentions. Therefore proficient "signers" have no problem knowing themselves and how to use their body to express a thought or emotion as part of the conversation.

However, more important for the development of self awareness is the value of culture or community influence. A common belief amongst social science researchers is the concept that self awareness develops as a by product successful interpersonal relationships. Leary (2002) developed the Appreciation Inquiry theory that states that self awareness is based on the individual's role within the context of the community where he/she resides. Developmental theorists believe that when a strong sense of community is part of one's early childhood development the more it contributes greatly to the development of one's ego. As that person matures, awareness of societal concerns and construct increases, and it contributes to the person's moral fabric. Therefore it stands to reason that the subjects who participated in this study had a strong sense of community as a child, and therefore they see themselves as an integral part of the Deaf community despite their ability to be without disability.

Life Story Examples as They Relate to the 8 Self Directed Learning Characteristics

Initiation

Leonard Bernstein once said that "initiation is integral to the love of learning, or learning how to learn. It was revealed to me during my BLS masters program as a matter of interdisciplinary cognition—that is, learning to know something by its relation to something else." Initiation by definition is the power, ability or instinct an individual possesses to begin or to follow through with a plan or task. In the educational arena initiation is understood to mean to begin the learning process or to teach someone about an area of knowledge. CODAs define initiation as it relates to learning based on a story or an event, in which he/she had a significant learning situation during the developmental years with a parental figure(s). Every subject interviewed could recall a pivotal life event with a critical parental figure to which they attributed the development of their ability to initiate learning throughout their lifetime.

According to Guy (1997), positive learning interactions with adult role models during early child development are critical, because these experiences have a long-lasting cognitive impact and contribute greatly to the development of lifelong learning behaviors. The manner in which these pivotal events manifest themselves is unique to the learner and the circumstances surrounding the educational experience. These pivotal events express themselves in one of three forms for the subjects participating in this study: (1) solidifying their sense of Deafness through emulation of the parental unit's behavior, (2) integrating their

hearing skills to augment the Deaf culture, or (3) ameliorating their diminished understanding of the Hearing community. Examples of how initiation manifests itself in the lives of CODAs are as follows:

Initiation of learning subcategory 1: Subjects who solidified their sense of Deafness through emulation of the parental unit's behavior

It is interesting to note that it is not a matter of time spent with a child that facilitates the development of initiation, but the meaning the child associates with that event. The following story illustrates this point quite poignantly.

> I was about 3 years old and [at bedtime] is when my mother [and I had alone time]. We really used a lot of sign language and I learned how to tell different stories sing different things. It was meaningful because my mother worked and we were together at bed time. That was the only real alone time we had and that was when I learned her language.

Others saw the need to create a positive environment to facilitate the interaction with the adult role model, which is an essential event toward initiation development.

> At home I was cleaning and taking care of the house and more doing things that would please my mom when she came home from work. If the house was clean, she was very happy, and she really didn't know how to help me in school. She was always so perplexed why my grades were so bad. It was until later in life when I learned how to balance life activities that my grades improved.

One subject recalled how important it was to him to find a link outside of Deaf culture to be like his father, and that was pivotal in the development of the ability to initiate learning.

> I was involved in Cub Scouting early on. I was at least 8 years old. Well, we were always doing things. So I think it was more my dad showing me how to do things around the house, encouraged me to try things on my own. Okay, I am handy with tools and so forth. My dad was the second Eagle Scout in America, in the California School for the Deaf, and I followed his steps in scouting. That was pretty impressive to be an Eagle Scout especially that was in 1922.

Initiation of learning subcategory 2: Subjects who integrated their hearing skills to augment the Deaf culture

Growing up in a deaf household, CODAs would use the newly learned information and take the initiative to educate their parents on the nuances of the Hearing world.

> Having Deaf parents as I did, I had a mother who could speak. She had good speech, and my father was somebody who used ASL, and he was not somebody who had good speech. My mother was a strong influence on me in my early learning. When I would learn something in school I would share it with my parents, especially my mother. I would teach her and she in turn would teach me. I brought a lot of the hearing world to her because she did not understand a lot of that stuff.

In addition, CODAs would also serve as a way of being the connection to the hearing world, enabling the Deaf parents to function within the Hearing world. Using their knowledge of sign to develop innovative signs for items that did not have an ascribed symbol. "I think I was 3 or 4 when I would sit with my mother and father where I would listen to television noises. My father repaired televisions and he needed my ears so he would teach me what the different sounds so that when I heard them I would tell him, and I created signs for them."

Initiation of learning subcategory 3: Subjects use this mechanism to ameliorate their diminished understanding of the Hearing community.

For some CODAs, growing up in a Deaf household did not facilitate initiation, but having a guide or a mentor to teach the ways of the Hearing world serve as the catalyst. "I was fortunate to not only have my parents in my life but to have a grandmother who was hearing as part of the nuclear family. She taught me how to speak and hear, and to understand the ways of the Hearing world."

Initiating in learning did not demonstrate a significant correlation with the demographic data, however, as evident from the subject's life stories, meaningful insight can be inferred. According to Schon (1987) and Knowles (1975) the reflective process serves as a catalyst for the development of the learner's ability to initiate the learning process. The more that one learns from each experience the more one feels empowered to continue to manage their own educational development. As children, and in particular CODAs or Deaf children, this is established through continuous interactions with their mothers (Meadow, 1981), reflecting on the interviews we can infer significance with either parental unit.

Meltzoff and Moore (1997) studied infants to understand the interconnection between interpersonal relationships and the development of spatio-temporal learning. They determined that infants undergo a sequential learning process, which require both visual and tactile cues, in an effort to learn about themselves through emulating others. With each interaction, the child interprets the response, and integrates the meaning of the response into their sense of self concept, which promotes their willingness to engage in more interactive learning. Ultimately, this results in the learner developing a self concept based on an integration of their parental unit's positive reactions to their self initiated learning,

Life Story Examples as They Relate to the 8 Self Directed Learning Characteristics

Creativity

Creativity is commonly understood to be synonymous with originality, expressiveness, and imaginativeness. Educationally, creativity is based on how the educator shapes or manipulates the learning environment so that each learner can maximize his/her potential. However, it can also be considered to be the extent to which the learner works within the formal educational framework to develop a strategy to maximize his/her learning potential. Either way, the critical component is the altering of the learning environment to facilitate the learner's success. CODAs tend to define how creative they are based on practical problem-solving situations.

Typically the CODA's problem solving revolves around an inequality in the environment that needs to be ameliorated to meet their or their family's life space needs. He/she had to change a process or situation due to an inequality, which would then enable him/her to be more successful. These pivotal events are considered to be influential in the development of the creativity characteristic ascribed to adult learners.

To illustrate this point, a situation arose with one subject who could not return to school and was given a choice between going to reform school or finding a school in another district.

> Unfortunately I could not go to another district unless you lived within the boundaries of the district. I had to figure out how to get into a

district when we did not live there. So I tried to get them (my parents) [to buy] a house in the district but we could not afford it. So I negotiated with the owner on my parent's behalf, then we bought a lot within the boundaries and ended up building a house there within six months and I was able to return to school.

Others used their abstract reasoning skills to alter the learning environment as they advocated for themselves when confronted with a situation that was problematic.

> There was a time in a high school gym class when we were doing tumbles. In order to pass the class we had to complete this task. I was petrified that I would break my neck. I did not want to fail so I approached the teacher and developed an alternate set of tasks to complete the grade. Later it was learned that other kids had that phobia too, but they did not approach the teacher.

Another subject recalled an event when she witnessed a classmate of hers being ridiculed for being different, she extrapolated that event to her life situation and developed an effective coping strategy to prevent a similar situation from occurring to her.

> When I grew up, I was in this particular school; there was a large group of Greek immigrants. I saw everybody making fun of them and their parents, and I was not going to let them make fun of my parents. Therefore I was forced to maintain an A average in school. I always got a 90 or 95 or better in school because it forced me to

keep in mind that if I didn't, I saw that if anybody had a lower than A or B, in school parents had to come to school, and I said there was no way my parents would have to come. So it made me a much better student in that it forced me to make sure that I studied.

Still others see creativity in a more concrete fashion, growing up in a silent world enabled this person to become in touch with inner thoughts, which he learned to express through art.

I think a lot [of my thoughts] came out through me through artistic things. I remember when it came to drawing, I would draw and color like nuts. I really would express myself well through artistic methods, a lot of stuff just pours right out of me through art, and it is amazing I can do that. I amaze myself, it sounds awful to say that, but I amaze myself because I have a real tendency to be able to pour my expression, not through words or mouth, but silently, I can pour a lot of my expression through my art, and I don't do enough of it, unfortunately. I really enjoy, especially going back to my childhood, the story about kindergarten, showing off what I did. When I do anything that relates to art, if I have somebody really close in my life to me, I have to show it. I don't know why, I must show what I produced to get the result of a response whether it is good or bad, hopefully it is good. But when it is bad, I want to know, okay, tell me if it is bad, whatever, but that is the one thing I can do silently is express myself through drawing.

I have a really close friend, who would stew over writing a letter. That is another thing that is an art, writing, too, as well as drawing, an art of writing or expressing yourself. This guy would stew over. He would stew for hours to get it right before he would mail it. Whether it was for personal or business issues, I was able to write off a business letter very quickly and focused, or I could write a personal letter, just blab it right through, reread it, make sure I did it right and send it. Real quick! When it comes to that kind of art I am very quick in being able to express myself that way, where other people might be scared about doing that. I am not scared. When I was a child I was [always] able to express myself in a silent way through drawing and art.

Delving deeper into the creativity characteristic, the data revealed that other subjects saw creativity in various ways. Many saw their level of creativity as a by-product of their ability to sign well. They believed the more they signed the more their level of creativity became enhanced. This link between creativity and sign frequency was an area that demonstrated statistical significance during the data analysis (see Table 3). To further illustrate this point, I provide additional examples that the subjects shared during the interview process.

It is interesting to note that within the subject matter of creativity and sign frequency, different themes emerged. The primary themes can be subdivided into two categories: (1) those subjects who integrated signing into their learning

paradigm, and (2) those who integrated signing into their self concept. Each of the subcategories mentioned above is explored separately along with examples of how it manifested itself. The lives of the subjects interviewed provide supporting evidence.

Creativity subcategory 1: Subjects who integrated signing into their learning paradigm

The literature supports the belief that early childhood experiences shape the way in which an individual will learn in adulthood (Tennant, 1997). Whitesell and Zmijewski (1995) found that patterns of code switching (the ability to move from sign language to spoken language) that became solidified during early educational experiences when the child was empowered to explore educational opportunities within their own conceptual framework. Several subjects shared life stories in which they were exposed to both communication styles and how they developed learning processes that maximized their educational experiences

One subject explained how she believes signing influenced her learning abilities in a more creative manner.

> I think something to do again with my upbringing, because I think that I use more senses than just my auditory sense, for example, at a spelling bee, I was always waiting for spelling bees,[so I could] take part of it, I think I have -- kinesthetic [or an alternate] way of spelling it, instead of just sounding it out in my head. So I think [in a] multisensory processing [way]. I would visualize things that [other] people didn't look at in a visual way, or [conceptualize them] spatially

or something like that. Sometimes I would even sign something, translate it in my head and see something there that I didn't see when I was listening to it or listening to me say [it in my head]. So I think that it (signing) created for me another whole dimension which I feel very blessed about.

Others explained the how signing from an early age enabled them to unconsciously develop innovative lifelong learning strategies.

For example, as a young child, my parents joined a book club for us and, for my brother and myself, and we were given a book to read a week, and every weekend, it would either be a Saturday or Friday night, we would have to be finished with our book by Friday. We had to give like an oral book report, of course in sign, so I never knew whether or not my father ever read the books or based on what he said, he would be asking us the questions. But we had to be very creative in either one week we would have to just sign the story. Another week we would have to act it out. So this kept him, let me put it this way, this allowed my father to force us to read at a very early age, and it created for us [a lifelong learning strategy], because we would have to give book reports orally before we had to give them in school.

Reflecting on her childhood this subject recalled how unique her upbringing was, as compared to non-signing children.

Because of my parent's deafness I was very visual. So I would have to say in the second grade, we had an assignment that I was able to use my visualness to help do this school project. And to memorize a line that we would have to play. And I was able to do that based on my book reports at home. So I read the whole thing like a story, and then I acted it out at home the way I would have had to act it out for my father and that helped me memorize what the play was all about and help the other students with their parts. [I am asking] *Why do you think you needed to develop alternate approaches to the approach offered, to the typical way that they wanted it to be done for memorization?* It wasn't effective for me, their memorization was auditory, more than it was visual and that wasn't effective for me.

Creativity subcategory 2: Subjects who integrated signing into their self concept

Higgins (1997) studied the nature of Deaf communities. He believed that for "outsiders" or Hearing people, sign proficiency was directly proportional to community integration. Higgins describes a hegemonic behavior of Deaf people to Hearing people which is ostracizing and myth making through language. Cultures keep outsiders from fully understanding their mores and keep their community together by demonizing the outside world. When lines of communication are limited, comprehending the intentions of the natives of a specific culture is diminished and ultimately reinforcing of the negative myth of the opposing culture. He believes that this behavior is analogous to the manner in which Hearing people treat Deaf people. Higgins states that Deaf people

perceive that the Hearing world believes that they are tainted. This belief is reinforced by the fact that that the Hearing world refers to Deafness or Deaf people with a lowercase "d" this indicates it is a disease process as opposed to a culture. In an effort to protect themselves, the way non-Deaf people gain access into the Deaf world is through the mastery of sign.

In addition, Spear (1988) defines self-directed learning as a combination of creativity, motivation, aptitude, energy and tenacity. This researcher suggests that the most powerful determinants lie within the circumstances and the conceptual framework that the individual employs to organize the learning process. The subjects in this study shared their views on signing as part of who they are and their self concept.

CODAs are structured by the environment in which they reside as well as the parent they most emulate. This subject shared that he was more like his mother who signed well and his brother was more like his father who was limited in his communication skills.

> My brother, for instance, being the second born, as much as he loves and respects my parents, he is awkward with sign language. He is a great receiver of understanding signing, but he is awkward at expressing. But his personality is opposite of mine, I am a talker, my brother is a listener. So he tends to be really good at taking in sign language, I take in sign language as well, but I express more. When my brother does express himself, he is a bit awkward. I know some CODA kids told me, there were like six kids and they all signed

perfectly, which amazes me. Everyone of them signed perfectly, so I think it carries from family to family.

Another subject shared that she attended a very strict elementary school and she was unable to use her learning strategies to enable her to be more successful. As a result she developed a poor sense of self. She explained how she realized that her original concept of who she was inaccurate, and the converse was actually a more accurate assessment.

> Yeah, that is what I think. I try to look back and figure out what happened. I think a lot about it because it is a big deal to me, that I am very successful now, I take on a lot of new learning as a sign language interpreter, which is what I do for a living. Everything I read and study about it talks about what a difficult task it is. So I now know that I am smart enough to have done better in elementary school, and I can't figure it out, and it just came to me that it was possible that I was more of a visual learner and it was all given to me auditorily, that is all I can come up with right now.

The significance of sign language as it relates to the development of specific self-directed learning characteristics for subjects in this study can be further illustrated based on the data on Table 3: Demographic data. There was a statistical significance between sign frequency or how often all the subjects in the study signed and self-directed learning characteristic; creativity. Even though creativity and sign frequency are statistically significant, it is how that relationship exhibits itself within the subject's life that is uniquely different. Reflecting on the

stories that the subjects shared with me, it becomes evident that each has his/her own way of interpreting life-events and the implications of those pivotal events is the manner in which they manifest themselves in adulthood. Collectively, this population represents a culture that can shed significant light onto the field of self-directed learning. However, the exact elucidation is based on individual experience. The meaning one ascribes to the situation determines the contribution or value of the life experience on self- directed learning behaviors in adulthood.

Clearly, the ability to sign did influence the subject's ability to adjust and modify traditional approaches to situations that arose during their life journey. Each time a situation developed that required them to use that initial strategy they adapted that strategy to enable them to be successful with the new life challenge.

Life Story Examples as They Relate to the 8 Self-Directed Learning Characteristics

Acceptance of Responsibility for One's Own Learning

The definition of "acceptance" and "responsibility" suggest that these two terms combined mean to take charge and to be accountable. When applied to the educational environment, contextually it now means to be able to internalize and utilize instructional materials. The American education system is structured based on Bloom's Taxonomy of Learning (1956). Bloom's taxonomy ranges from rote learning to synthesizing of information. Bloom's taxonomy crosses all three domains of learning as well (cognitive, affective and psychomotor). Children enter into the educational system at the basic level and as they matriculate through the educational process they develop the ability to accept more responsibility for their learning. CODAs, however, are forced to accept responsibility at an early age due to various life situations to which "typical" hearing children may not be exposed. Thus when they enter the educational system they are further along on Bloom's taxonomy and have already developed successful learning strategies that may be opposite to the formal education approaches. Subjects recognized numerous educational barriers to their learning and can pinpoint an event to illustrate that realization.

For some subjects, formal learning is clearly a burden. "I would say that I learn more through other people than I do from formal education, I have to admit it," said one subject. He was told by a close acquaintance that he did not read enough books. "I know," he responded, "but I do not have the patience [for]

reading a lot of books about stuff I learn from people."

Accepting responsibility for learning can also mean taking the initiative to reconfigure the way one learns in a traditional educational environment. "I learned early on that just to read or listen did not enable me to recall information. I needed to take notes and engage the material so that I could recall it later."

"Reconfiguration" can take many forms. It can evolve over time and shape the manner in which the learner accepts the responsibility for his/her learning, ultimately evolving into a strategy for lifelong learning. "Because of my parents deafness I was a very visual learner. I had difficulty memorizing lines for a play, so I would act them out with my father and the words would be in my head and it would be more than just words. As I grew, I developed a strategy of putting together a mental picture and then I could put all the pieces together."

Other subjects saw acceptance of responsibility for one's learning from a completely different perspective. For example, some accepted responsibility for their learning only when the appropriate motivator stimulated them to engage in a learning task. CODAs typically are utilitarian learners; they learn new material in response to a need. "Signing," and the frequency of their signing, serves as a catalyst toward accepting responsibility to learn. It is the act of signing that stimulates an intrinsic desire to learn within the subjects of this study. The subjects claimed that the physicality of signing helps them makes sense of their world. The physicality of signing utilizes psychomotor learning principles to facilitate their learning. What follows are illustrations of how intrinsic motivation and psychomotor learning intertwine with accepting of responsibility to learn.

Intrinsic Motivation:

Intrinsic motivation is typically defined as a conscious or unconscious force within a person that causes an action. Ultimately it is the desire to act, or in this case to learn is what counts. Brandt (1995) defines intrinsic learning as a learning activity or the environment that elicits a desire within the student to want to learn the material. Examples of how the environment facilitates the learning process are as follows:

1. the goals and learning are meaningful to the learner
2. the learning is important to the learner
3. the learning assists the learner in obtaining a valued accomplishment
4. the learning assists the learner in integrating himself/herself into the world, or adding to his/her self concept

The subjects in this study are to some degree intrinsically motivated to learn a task. The intrinsic desire to learn new skills or concepts may have an internal or environmental locus of origin. As one subject explained, her motivation was internally based:

> It is all my own responsibility because I knew from an early age if I didn't do it myself it will never get done. So that is just one of the things how I was raised because I was so alone and the only child around, if I didn't do it on my own, I didn't have anyone to do it for me. Don't get me wrong, my family was wonderful, but if I wanted to do something I had to do it on my own.

Another subject expressed her internal desire to learn most succinctly: "My

[learning] is totally my responsibility, and I think I am pretty responsible about it.

Motivation, which is derived from the environment, can be best illustrated with the following examples:

> Sometimes I need a kick in the pants to do it. It is hard for me to assess my responsibility in my own learning. I try, like right now in this stage in my life, I am trying to really keep up on what is going on with the news, and now that I have a PC, I have subscribed to the New York Times on line, and I read it every day, it is part of my routine.

When asked about accepting the responsibility to learn, a subject stated that "motivation is key." He continued to elaborate on this point:

> There has to be something that motivates me or someone that I see to be able to learn something new. Somebody else can't want it for them; they have to want it for themselves if they are going to really learn it well. And, I don't know, an appropriate environment to try, to practice or to express in some way what they have learned, that doesn't degrade their learning. I think there are some people, myself included, who have tried to learn things and then been shut down by others because it was a bad environment to learn that in. I would say motivation and appropriate environment for feedback, I guess.

Others describe what constitutes an internally motivating environment.

> Well, [it] has to be positive atmosphere, and [I] have to have a belief that I can learn it. In addition, there has to be enough time for me to

learn it, and lastly I have to be motivated to learn it. Ultimately interested, you know an interest in learning the material. The [more] motivation and interest, I think the faster the material would be learned.

Another subject shared that for him, environment was more than a physical space, it was the person within the space who served as a catalyst to learn. "Someone who is [able to be energized about a topic area is] somebody who can motivate [others]. I don't mean motivate by giving me everything. But let me backtrack, somebody who is excited about what they are going to teach me or talk about. I catch on to enthusiasm very easily."

As mentioned previously, acceptance of responsibility to learn is predicated upon the intrinsic desire to learn as well the utilization of psychomotor learning principles in the form of how often one signs (aka: sign frequency). This link between acceptance of responsibility for one's learning and sign frequency was an area that demonstrated statistical significance during the data analysis process (see Table 3). This process of communication is an attempt to make sense of one's environment, and is consistent with the psychomotor learning process. McCarthy (1986) defines psychomotor learning as a right cerebral hemisphere process that focuses on aesthetics, feelings and creativity. According the Herriman (1988), learners who are right brain dominant tend to be: (1) intuitive, (2) holistic, (3) subjective in their environmental orientation, (4) have an increased ability to synthesize new information, and (5) see the "big picture". This information is consistent with what we know about CODAs; they learn to

interpret gesture and make inferences from and early age in an effort to fully comprehend complex life situations.

The significance of sign language and the development of a specific self-directed learning characteristic for subjects in this study can be further illustrated based on the data on Table 3: Demographic data. There was a statistical significance between sign frequency and self-directed learning characteristic along with acceptance of responsibility for their own learning. Sign communication as a mechanism for processing information tends to utilize the right hemisphere of the cerebral cortex. Sign language requires that the user be able to convey thoughts and ideas through the use of symbols and the recipient of the information to interpret those gestures and ascribe an accurate meaning to them. Therefore it would be consistent of thought to say that those individuals, who have a high sign frequency, would use their right brain more, and therefore they tend to integrate the psychomotor orientation into their learning process. Sign communication is a vibrant language that is constantly evolving to enable its users to function in an ever-changing society. This need to constantly invent new signs or mannerisms to convey a novel though or idea is paramount for CODAs, as they serve as a bridge between the Hearing and Deaf worlds. CODAs are assuming the responsibility to learn about the world around them in an effort to serve their constituencies in the most effective manner possible.

Life Story Examples as They Relate to the 8 Self Directed Learning Characteristics

Love of Learning

Love of learning is defined as a desire to engage in a continuous act of Learning that occurs throughout the person's lifetime. The value of this process is determined by the individual. The educational community considers a love of learning to be directly related to the motivation and or cooperation a student exhibits during formalized learning sessions. CODAs consider love of learning to be both an event and an ongoing learning process that provides additional meaning in their life. Consistency amongst the interviewed subjects relating to the internal motivation or stimulus facilitated the development of the lifelong learning process. CODAs typically develop a self-directed learning style at an early age, that is utilitarian in nature. This style of knowing is consistent with what Brockett and Hiemstra (1991) consider to be the behaviorist paradigm as it relates to SDL. Their five key elements of the behaviorist paradigm are:

- Learning should focus on practical problem solving.
- Learners enter a teaching-learning setting with a wide range of skills, abilities, and attitudes, and these should be considered in the instructional planning process.
- The learning environment should allow each learner to proceed at a pace best suited to the individual.
- It is important to help learners continuously assess their progress and make feedback a part of the learning process.

- The learner's previous experience is an invaluable resource for future learning and thus enhancing the value of advanced organizers or making clear the role for mastery of necessary prerequisites.

As the CODAs matriculate from the less structured learning environment of their household to the more formal educational structure of the K-12 environment, a dissonance developed within the subjects. This cognitive dissonance stemmed from what Skarakis and Prutting (1977) describe as a gesture system. They describe the gesture system as a learning process that is analogous to the auditory system, which is employed by hearing children during the developmental years.

Researchers ascribe oral language development as a left cerebral hemisphere function. Goldberg (2001) sees development of sign language acquisition as a dual cerebral hemisphere process: the right side encodes the novel gesture and transfers the information to the left hemisphere for function and usage. That way CODAs have a unique way of understanding how the world functions.

When asked to reflect on the nature of love of learning, CODAS saw it in one of two processes. Some discussed it in terms of how it impacted their life as an adult. Others recalled the critical moment when they realized the incongruency between their learning style and the one being employed in school. Examples of how love of learning manifests itself in the lives of CODAs are as follows:

The following quotations are from three subjects who discussed how the love of learning process is integrated into their learning processes as an adult.

"Although I am open-minded, and receptive to whatever the learning is, yet it becomes a challenge if it is not what I think it should be. I do not think that anything impedes my learning but if it is not engaging I am less willing."

"I need to be able to put myself fully into the learning material. Because I like to learn it and I want to learn it. Once it is under my belt I can, you know, I will have it and I will know it."

"I guess it depends on my interest. If it something that I am interested in I do not wait for anybody to go ahead and learn. If it is something that I am not interested in but I have to do it for a job or something like that, I am not as [motivated], I do not initiate it as quickly as I would in another area."

Two other subjects recalled the moment when they had the epiphany and realized how their utilitarian learning style came into conflict with what was being taught in the classroom, as well as the teaching style.

> When I was in 7th grade I took electricity. We had to do things with circuit boards. I tried and tried but I just could not understand it. I got my first D, and I was like a good student A's and B's. I was crazy about it. I did not like it. Then someone said to me how important is electricity for your future? I said I do not think it is that important. They said why worry about it? Then I stopped worry about material which did not engage me as a learner.

"I think a lot about my early learning and I realize that it has to be a big deal to me. I take on new learning constantly as it relates to sign language. I am able to tell myself that not everyone can do interpretation and therefore I must have

something upstairs."

When considering the five principles of the behaviorist paradigm, and the information that the subjects of this study provided, one can see congruency. The five principles focus on the learner's need to incorporate life strategies into the learning process. The subjects shared how their early life experiences prepared them to recognize what areas are of interest to them and how they best learn new information.

Concluding Statement

In summary, congruence between the qualitative and qualitative data further supports the findings of this study. Even though the data is heterogeneous in describing the circumstances and events, it is homogenous in the elicitation of themes. This fact makes them special and worthy to be studied. These common themes have provided a lens through which self directed learning can be viewed.

CHAPTER FIVE: CONCLUSION

This chapter is comprised of four sections: (1) a summary of the study, (2) assumptions and limitations, (3) the relationship of the study's findings to the three bodies of knowledge: (a) Deaf culture, (b) Cognitive development and (c) SDL, and (4) implications for further research.

Summary of the Study

The purpose of this dissertation was to investigate the relationship between early integration of self-directed learning behaviors in CODAs, and how they manifest during the subject's adult years. This in-depth study of hearing children of deaf adults (CODAs) utilized the quantitative Self-Directed Learning Readiness Scale (SDLRS) in conjunction with qualitative measures (semi structured interviews) to ascertain meaningful answers to the questions under study. The study focused on the following three primary questions:

1. How do CODAs perceive the impact that culture and the key developmental factors had on the emergence of their Self-Directed Learning behaviors?
2. Which of the identified Self-Directed Learning characteristics are most prevalent in the sample CODA population?
3. How do CODAs understand the influence that their culture and key developmental factors had on the identified Self-Directed Learning characteristics?

SDLRS Questionnaire data indicated that love of learning and self directedness are the two key developmental factors. Interview data indicate that

love of learning, self directedness and initiation are the key developmental factors. This signified a high level of congruence between the questionnaire data and the interview data. Note the characteristics love of learning and self directedness were not influenced by age, gender, frequency of signing, education or birth order of the CODAs studied.

Assumptions and Limitations of the Study

Meaningful assumptions and limitations within this study are listed below:

1. Interviewees were not randomly selected. Interviewees volunteered to participate in this portion of the study, they represent a convenient sample.
2. Nonrespondent error was not calculated, therefore the results are based on individuals who were interested in participating in the study. In addition, those individuals may have been more inclined to have a positive perspective on their formative years as a CODA.
3. Although the SDLRS has high international acceptance, it has limited validity for total and subset scores.
4. The data obtained from the SDLRS utilizes ordinal and nominal scales. I determined no statistical differences with the exception of a Chi- squared analysis.
5. Due to a limited number of questions in each subset I could not establish meaningful differences between subsets.
6. The interview process included no corroboration of the information obtained. I can not assure that the information provided by the interviewee was accurate and reflected real events. I accepted the data obtained as

the individual's personal reflections and factuality is based on the concept that their perception constitutes their reality.

7. The number of interviews may be too small to be a representative sample of the general population of the subjects who participated in the study.

8. Because I conducted all interviews over the phone, I had no face to face interactions, which limited my ability to use the interviewees' body language to ascertain nonverbal cues in order to better interpret the qualitative data.

9. I elicited all of the interview themes, so no measure of interrater reliability is available.

10. Within this study two significant biases may exist:

- Design Bias: The researcher determined the specific themes based on the interviews and therefore inherent biases may exist.
- Sampling Bias: The majority of the subjects participating in the study are sign language interpreters.

11. I did not determine the ratio of oral communication versus sign language communication in the childhood of the CODA.

12. Generalizability of the study may be limited due to several factors:

- The interpreters who participated in this study may not be representative of all CODAs who are interpreters.

- No other occupations in which CODAs are employed are represented in this study. Therefore the results may reflect an occupational influence rather than essential CODA characteristics.

Congruence with the Literature

Sociocultural

This study is consistent with the view of culture as defined by Krober and Kluckholn (1963). The CODA population studied utilizes a unique set of identifiable signs, codes and text which govern their daily life routines. In addition, CODAs represent a distinct subculture that is predicated on a system of shared meanings and its impact on the individual's life space. The results of this investigation are consistent with the literature that Deafness is a distinctive culture. Therefore the findings of this dissertation provides significant empirical support for the denoting of deafness utilizing "D" indicating a culture as opposed to a "d" indicating a medical condition.

Cognitive Development

The process that an individual undergoes to interpret and to derive meaning of his/her surroundings is a key component of cognitive development (Dale, 1980; Mimoun,1989). CODAs perceive their surroundings through an abstract vantage point, which is comprised of loosely based rules to classify specific experiential life events. A traditional education experience is defined as a series of experiences that leads to terminal competencies. However, the cognitive development of CODAs enables them to view their learning process as a series

of singular events, as opposed to a series of linearly sequential occurrences.

People who are Deaf in general and CODAs in particular undergo a cognitive developmental process that is consistent with the finding of spatio-temporal learning. They use tactile and visual stimulation to understand their surroundings. This way of orienting themselves to their surrounds becomes a critical component for their future learning experiences.

Contemporary K-12 education in the United States considers CODAs to be a component of the mainstreamed student body. CODAs are not considered to be one of the identified special education populations (rightly so), and therefore it is assumed that they will conform to situation that may be unfamiliar to them. A poignant example of this situation was unearthed during the interview process. An interview subject shared the following event:

> I would have to say in kindergarten I learned the second day of school how cruel kids could be and how cruel teachers can be. I will share an experience as to why. The second day of school I had to go to the bathroom very badly, and when I raised my hand to go, and I kept on using "T" sign for toilet, that is how I used to have to say I had to go to the bathroom at home, because my mother was always afraid to let us children go to the bathroom by ourselves without her knowing about it in case we locked the door and she wouldn't know where we were. So that was something I carried over when I went to kindergarten. I remember raising my hand and saying that I had to go to the toilet, and the teacher told me to put my hand down. But

the day before she had said, if we had to go to the bathroom to raise your hand. So I connected that to raising my hand with the T. I did it two or three times, she kept on telling me to put it down, and to my embarrassment I went to the bathroom on the floor. When the teacher came over and noticed it and she said, what did you do? I said, that I did T on my hand back and forth because that meant toilet, at home that is what I did. She said, oh look at this class, this is how Sarah tells her parents she has to go to the bathroom, isn't that sweet. Well, everybody laughed. And that taught me from that point on, no one in school until I was in the 8th grade knew my parents were deaf. That was my first learning experience as far as that.

This story illustrates that the thought processes employed by CODAs is a construct derived from their cultural influences. The subject in the above situation utilized the strategy she learned at home: when using the restroom one needed to get permission prior to rather that going directly into the bathroom. The teacher's intent was to use this as a teachable moment for all the students to learn about this subject's unique family ritual. However, it was interpreted by the subject as an attempt to cause her embarrassment and shame because the other children laughed at her. She learned from that event to keep her Deaf communication strategies a secret.

This example demonstrates that often CODAs learn adaptive strategies under stressful social circumstances, which could cause some aspect of cognitive

dissonance between the CODA and the Hearing world.

Self-Directed Learning

I could find no literature that addressed SDL and CODAs. According to Tough (1990), focus on personal variables, creativity, and self concept of the learner have been relatively discounted within the research community as it relates to SDL. This study contributes to the closing of the gap that currently exists between SDL and SDL characteristics.

CODAs differ from the traditional SD learner as defined by Hammond and Collins (1991), who undergo a detailed assessment and evaluation process to maximize the SDL experience. The interview data indicate that CODAs tend not to set goals and learning objectives: CODAs tend to learn as they go.

Within the five primary areas of SDL outlined by Caffarella and O'Donnell (1987), CODAs provide additional insight into the areas of SDL processes and personal attributes.

Experiential Learning

McAdams (1997) [see Chapter 1] explores the significance of "nuclear episodes" or pivotal points in one's personal childhood development as a mechanism to understand behaviors in adulthood. An example of this type of event occurred to one subject who recalled an event when she witnessed the parents of a classmate who were from Greece. The classmate's parents spoke with an accent and the other children made fun of the classmate's parent. The subject, recognizing that her parents where different as well, feared the same ridicule, so she developed a strategy to avoid the situation. She knew if one's

grades were poor, then the school's policy was to contact the parents of that student for a conference. The subject decided that she would always get good grades so her parents would never be brought into school. She expressed how stressful it was to always have to achieve good grades in an effort to avoid what she perceived as a traumatic experience from occurring. This event caused her to develop exceptional study habits and strategies that would facilitate her SDL behaviors well into her adulthood.

This study supports the findings of Caffarella and Caffarella (1986) that stated, the more the learner and his/her life experiences are inextricably linked, and the more that life experiences become integrated into the formal learning process the greater the likelihood that the learner will transform into Self-Directed Learners." The results of this study corroborate the findings of the literature associated with the development of SDL strategies and pivotal life events.

Ewert (1987), who studied the relationship between performance anxiety and SDL behavior development, believes that a moderate amount of anxiety is required to maximize the learning experience. The subjects Ewert interviewed all shared how stressful events heightened their need to learn how to successfully complete the task was achieved. An example of such a situation involved one of my subjects when she was 3 or 4 years of age. Her father was a TV repairman, and he would have her tell him what kind of noises she was hearing. She expressed how she would listen to the noises and try to communicate them as best as she could to her father. The significance the subject places on that pivotal event is the imperativeness associated with the task. She was required to

correctly identify the sounds even though she did not understand what they meant. The subject related that as an adult she is constantly being open minded to unfamiliar situations and or events and their importance to others.

I found considerable incongruence between the literature of SDL and the responses of the subjects studied. Many researchers see the need for reflection as a pivotal component to being a self-directed learner. After conducting the interviews, it became apparent that most of the subjects did not spend a significant amount of time in the process of reflection. They stated that at times that they would reflect on an event that went well or went awry. However, they attributed the lack of reflection to the fact that when they were young and engaged in meaning activities (e.g. interpreting for a parent or negotiating with a car repairman), that moment was the teacher and each subsequent event added a new dimension to the previously learned task.

Based on the results of this study, it appears that the population studied offers a perspective not typically explored within Experiential Learning literature as it pertains to the adult learning community. Typically the focus of the experiential learning literature is on how to use adult learning theories to facilitate and maximize the learning experience. This research reveals that the implementation would be more beneficial if offered while the learner was developing the learning strategies so that it could be incorporated into the learners self concept.

Summary

The results of this study provide a dimension rarely considered to what is known in the fields of socioculture, cognitive development and SDL. In general,

this study confirms the three bodies of knowledge with the exception of the areas mentioned above.

Implications for Further Research

To ameliorate the limitations of this study, future researchers could:

1. Enhance the SDLRS validity for both total and subscale scores, by internal modifications.
2. Establish interrater reliability for the interview process.
3. Examine the questions used to elicit SDL characteristics utilizing different parameters, and/or tools found in the SDL literature
4. Expand the interviewee sample with face-to-face interviews.
5. Ascertain the level of oral compared to sign communication within the home of the subject.
6. Study other populations to enhance the richness of future studies.
7. Include CODAs with various occupations.
8. Interview parents of CODAs to elicit their perspective on their child's development of SDL behaviors.

Conclusion

Consider the implications of a common belief within the educational community: that the sheer quantity of information in the world doubles every seven years or less. Should the higher education community use this anecdotal information as the impetus for the integration of SDL into the American educational curriculum? If known information doubles in less than seven years, then students in the 21st century will always be required to constantly seek out

new information in an effort to remain current academically as well as vocationally. No longer will learners be considered empty vessels to be filled with knowledge, but consumers of information who will require learning skills to empower them to locate, assess, and synthesize new information in an independent manner. This study demonstrates that a high correlation exists between the qualitative and quantitative data supporting the love of learning and self directedness as key characteristics of SDL Pivotal life events occurred for the interviewed subjects that indicate a meaningful and positive impact on SDL. Pivotal life events may differ between subjects, but the effects of these events are critical for the development of SDL. The characteristics of love of learning and self directedness are not dependent on age, gender, frequency of signing, education or birth order.

The methodology employed in this study can serve as a new paradigm for the social science and education communities. The study demonstrates the importance of utilizing both qualitative and quantative analysis to fully explore and understand the subject matter. Neither approach alone could have produced the richness of the data obtained and the substantiated conclusion drawn from it. The results of this study are congruent with bodies of knowledge of Socioculture, Cognitive Development, and Self-Directed Learning. Experiential learning, in general, and outdoor education, in particular, provide the needed framework to understand how a previous learning experience facilitates independent thinking in this study. Experiential learning in conjunction with self-directed learning can provide a stable foundation to further explore how SDL behaviors emerge.

Three components derived from the literature can be used to further understand the origins of the SD learner are: (1) the use of the SDLRS, (2) the exploration of pivotal events during the early elementary years, and (3) the aspect of overcoming fear as a facilitator of learning. The combination of these critical components will provide an additional theoretical and practical framework to comprehend and understand relevant sociocultural aspects as they pertain to the integration of SDL behaviors into the American educations system.

This need for innovative proactive educational processes has not been fully endorsed by the American educational system. Current K-12 and entry level higher education curriculums continue to employ a basic rote learning format. Educators are required to focus primarily on meeting educational standards rather than teaching learners how to develop and transform their life learning experiences into self-directed learning behaviors.

Concluding Statement

This study eminates from three separate but related bodies of knowledge: Deaf Culture, Cognitive development, and SDL. Each component contributed to the significance of the questions explored. The findings of this study may contribute to the body of knowledge of each field of study. Therefore one can conclude that the major strength of this study is that it addresses key developmental factors in the transition from a Deaf culture to a Hearing one within the construct of SDL. The findings of this study can be summarized by the Haeckel's biogenetics belief that ontogeny recapitulates phylogeny. This concept succinctly states that the organism is a product of its evolutionary process. This

study demonstrated that the self-directed learning behaviors of CODAs are a direct byproduct of their unique life experiences.

APPENDIX A.

INFORMED CONSENT

and UCRIHS FORMS

Participant Informed Consent Form

The goals and procedures for my participation in the study entitled A Study of Developmental Function which Influences the Emergence of Self-Directed Learning Behaviors: In Children of Deaf Adults (CODAs) have been explained to me.

By agreeing to participate in this study, I understand that I agree to complete a Self Directed Leaning Readiness Scale questionnaire. In addition to completing the questionnaire I can volunteer to be considered to participate in an interview process. I recognize that I am voluntarily electing to participate in both the questionnaire and the interview processes. I also recognize that in order to volunteer for the interview protocol I must complete the questionnaire first.

I also understand that:

1. My identity will be kept confidential and will not be included in any reports or presentations of the findings of this study.

2. The data collected will be compiled in a dissertation presented to the researcher's Doctoral committee and may also be used for publication or instructional purposes.

3. I am free to withdraw from this study at any time without penalty.

Please sign and return to:

Stuart Blatt

2404 White Birch Trail

Howell, MI. 48843

I voluntarily **agree** to participate in this study, entitled A Study of Developmental Function which Influences the Emergence of Self-Directed Learning Behaviors: In Children of Deaf Adults(CODAs)

Participant's

Name_____

Mailing

Address_____

Phone number( ) _____

Best time to contact you_____

Date_____

APPLICATION FOR INITIAL REVIEW

APPROVAL OF A PROJECT INVOLVING HUMAN SUBJECTS

University Committee on Research Involving Human Subjects (UCRIHS)
Peter Vasilenko, Ph.D., Chair
202 Olds Hall, Michigan State University
East Lansing, MI 48824-1046
PHONE (517) 355-2180 FAX (517) 432-4503
E-Mail - UCRIHS@msu edu
WEB SITE - http://www.humanresearch msu edu

Office Hours: Mon.-Fri. (8 00 A.M.- -5:00 P.M.)

DIRECTIONS: Please complete the questions on this application using the instructions and definitions found on the attached sheets. If not attached, these materials are available at http://www.msu.edu/user/ucrihs/ucrihs_instruction_form.htm.

REQUIRED	
1. Responsible Project Investigator:	
(MSU Faculty or staff supervisor)	
Name:	Steven Weiland
Social Security # or Z-PID:	
Department:	Education administration
College:	Education
Academic Rank:	Professor
Mailing Address:	410 Erickson Hall Michigan State University East Lansing , MI. 48824
Phone	(517)-355-2395
Fax:	(517)355-6393
Email:	weiland@msu.edu

I accept responsibility for conducting the proposed research in accordance with the protections of human subjects as specified by UCRIHS, including the supervision of faculty and student co-investigators.

SIGN HERE: _____

Note: Without signature, application can **not** be processed

IF APPLICABLE	
2. Secondary Investigator:	
(**Students Must Provide Student ID#**)	
Name:	Stuart Blatt
Student ID#: or SS#	173-46-6518
Department:	Education Administration
College:	Education
Academic Rank:	Ph.D. candidate
Mailing Address:	2404 White Birch Trail Howell, MI. 48843
Phone:	(517)546-7241
Fax:	
Email:	kkblatt@peoplepc.com

Additional Investigator Information	
3. Name:	
Student ID#: or SS#	
4. Name:	
Student ID#: or SS#	
5. Name:	
Student ID#: or SS#	

UCRIHS Correspondence: Copies of correspondence will be sent to the primary and secondary investigators only. If you would like additional investigators to receive correspondence, please provide further address information on a separate page.

6. Title of Project: Developmental Function and Self Directed Learning Behaviors: Children of Deaf Adults

7. List all site(s) where this research will be conducted.
The questionnaire will be sent to the homes of all the subjects for this study. Those subjects who are selected for the interview component, may have either a face to face interview or a phone interview depending on logistical feasibility. The local of the face to face or phone interviews will be based on the preference of the subjects. The researcher requests that the location selected by the subject be a secluded environment, to assure that the subject can focus on the questions posed and answer them fully without external interruptions.

8. a. Have you ever received Preliminary Approval for this project? No [x] Yes [ ]
b. Is this application a Five-Year renewal? No [x] Yes [ ]
c. Do you have any related projects that were approved by UCRIHS? No [x] Yes [ ]
If yes, list IRB numbers _____ _____

9. Have you submitted this to any other IRBs? No [x] Yes [ ]

If yes, what was the outcome of that review?

10. Funding (Complete a, b or c).
__x__ a. project is not funded
_____ b. project is internally (MSU) funded
_____ c. project is externally funded

If c, list all external funding sources and provide two copies of your grant application materials

Funded research in the expedited review or full board review category must submit two (2) copies of the grant application.

11a. Are you using a FDA approved drug/device/diagnostic test?
No [x] Yes [ ]
If yes, please enclose a copy of the package insert.

b. Are you using a FDA approved drug/device/diagnostic test for a non-FDA approved indication?
No [x] Yes [ ]

12a. Has this protocol been submitted to the FDA or are there plans to submit it to the FDA?
No [x] Yes [ ]

If yes, is there an IND #? No [ ] Yes [ ] IND # _____

7. a. Have you ever received Preliminary Approval for this project? No [x] Yes [ ]

b. Is this application a Five-Year renewal? No [x] Yes [ ]

c. Do you have any related projects that were approved by UCRIHS? No [x] Yes [ ]

If yes, list IRB numbers _____ _____

8. Funding (Complete a or b).

__All funded FULL REVIEW research must submit two (2) copies of the grant application.__

_____ a. none

b.

_____ Source(s _____

_____

_____

List any source of project funding above whether it is through MSU **or** paid directly to one or more of the investigators. Please provide 2 complete copies of your grant application materials (if any) with your UCRIHS submittal.

If applicable, MSU Contracts and Grants app. and / or acct. #(s) _____

_____ _____

9a. Are you using a FDA approved drug/device/diagnostic test?
No [x] Yes [ ]
If yes, please enclose a copy of the package insert.

b. Are you using a FDA approved drug/device/diagnostic test for a non-FDA approved indication?
No [x] Yes [ ]

10. Has this protocol been submitted to the FDA or are there plans to submit it to the FDA? No [x] Yes [ ]
If yes, is there an IND #? Nc [Yes [INI _____

11. Does this project involve the use of Materials of Human Origin (e.g., human blood or tissue)? No [x] Yes [ ]

12. When would you prefer to begin data collection? November 2002

Please remember you <u>may not</u> begin data collection without UCRIHS approval.

13. Category of Review. Circle a,b, or c below and then specify sub-category for a. and b. (See Instructions pp. 6-8).

a. This proposal is submitted as EXEMPT from full board review.
Specify sub- categories: _____

b. This proposal is submitted for EXPEDITED review (Note: Includes audio/videotaped protocols).
Specify sub-categories: _____

c. This proposal is submitted for FULL Board Review.

14. Is this a Public Health Service funded, full review, multi-site project for which MSU is the lead institution? No [x] Yes [ ]

If yes, do the other sites have a Multiple Project Assurance IRB that will also review this project?

[ ] No. Please contact the UCRIHS office for further information about meeting the PHS/NIH/OPRR regulations.

[ ] Yes. Please supply a copy of that approval letter when obtained.

15. Research Category

Check all categories that apply

[x] Education Research	[ ] Gene Transfer Research
[X] Survey/Interview	[ ] Fetal Research
[X] Audio/Video Recording	[ ] Medical Records
[x] Oral History	[ ] Stem Cell Research
[X] Internet-based	[ ] Medical Imaging
[ ] Analysis of Existing Data	[ ] Oncology
[ ] International Research	[ ] Phase 1 Clinical Trial

16. Project Description (Abstract): Please limit your response to 200 words.

The purpose of this study is to investigate the relationship between early integration of se directed learning behaviors and how they manifest themselves during the adult years This dissertation will employ an in-depth study of hearing children of deaf adult (CODAs) to achieve its objectives. The study will focus on the following three primary questions: 1.What are the key developmental factors, which influenced the emergenc of Self-Directed Learning behaviors, as perceived by CODAs? 2.What are the levels identified Self –Directed Learning characteristics in the sample CODA population? 3.What is the relationship between key developmental factors and the identified Self-Directed Learning characteristics?

This dissertation will use both quantitative (self directed learning readiness scale(SDLRS), and qualitative (interview) measures to ascertain meaningful answers the questions understudy.

17a. Procedures: Please describe all procedures and measures you will use in collecting data from human subjects. This pertains both to prospective and retroactive (i.e.pre-existing data) research procedures. Investigators should carefully consult the instructions to correctly complete this question. Also indicate below if data collection includes audio or image recording.

This research project will be surveying all the research subjects using the Self Direct Learning Readiness Scale. This tool which is nationally and internationally recognizec for its ability to assess the learner's level of self directedness. In addition there will be to 20 interviews with subjects who volunteer to be interviewed using a predetermined interview protocol.

17b. Does your investigation involve incomplete disclosure of the research purpose or deception of subjects? [x] No [ ] Yes
If yes, be sure to include copies of your debriefing procedures for subjects. (See the UCRIHS Instructions p. 9).

18a. Subject Population: Describe your subject population. (e.g., high school athletes, women over 50 w/breast cancer, small business owners)
The subjects of my research are men and women over the age of 25 and are hearing people who's parents are deaf. All the subjects for this study were raised in a deaf household. It is important to point out that CODAs are part of the "Hearing" communit None of the current classification systems which define handicap or disabling conditio (WHO, NAGI, National Institute for Rehabilitation Research) include CODAs in their classification system. Although they are hearing, CODAs possess a unique life perspective and learning characteristics due to the fact that they were raised predominantly in a deaf environment for their formative growth and development year

b. The study population may include (check all categories where subjects may be included **by design or incidentally**):

Minors		[ ]
Pregnant Women	[ ]	
Women of Childbearing Age		[x]

Institutionalized Persons	[ ]	(<--Note: Includes prisoners)
Students		*[ ]*
Low Income Persons		[x]
Minorities	[x]	
Incompetent Persons (or those with diminished capacity)	[ ]	

c. Expected number of subjects (including controls) 300

d. How will the subjects be recruited? (Attach appropriate number of copies of recruiting advertisement, if any. See Table 4, p. 18 of UCRIHS instructions)

The subjects for this study will be recruited by mail, and email. All subjects will be ask to volunteer to participate in both the qualitative (interview) and quantitative (survey). Not all subjects who volunteer for the qualitative component will be given an interview All subjects for the interview will be selected randomly from the group who have voluntarily agreed to participate.

e. Are you associated with the subjects (e.g., they are your students, employees, patients)? [x] No [ ] Yes
If yes, please explain the nature of the association and what measures you are taking to protect subjects' rights, including safeguards against any coercion.

f. If someone will receive payment for recruiting the subjects please explain the amount of payment, who pays it and who receives it.

g. Will the research subjects be compensated? [x] No [ ] Yes.
If yes, provide details concerning payment, including the amount and schedule of payments including any conditions. In addition, this information must also be explained in the consent form. (See Instructions item 6, p. 14)

h. Will the subjects incur additional financial costs as a result of their participation in this study? [x] No [ ] Yes. **If yes**, please also include an explanation below

and in the consent form.

i. Will this research be conducted with subjects who reside in another country, or who reside in the U.S. but in a cultural/ethnic context different from traditional U.S. society/culture?
Note: This may include ethnic groups/sub-cultures/ and other non-mainstream minorities, and would include non-English language speakers. [x] No
[ ] Yes.

(1) If yes, list the country(s) below, if applicable:

(1) If yes, will there be any corresponding complications in your ability to minimize risks to subjects, maintain their confidentiality and/or assure their right to voluntary informed consent as individuals?
[ ] No [ ] Yes.

(3) If your answer to i-(2) is yes, what are these complications and how will you resolve them?

19. How will the subjects' privacy be protected? (See Instructions p. 11)
All subjects will be given a number which corresponds to the survey form which they completed. If any of the subjects requests a copy of their results on the self directed learning questionnaire, the researcher can trace the number on the subject submits a the results can be shared. Otherwise all results are anonymous.

20. Risks and Benefits for subjects: (See Instructions p. 11.)
There are no risks associated with this research project. The benefits for the subjects participating in this study is that they will be able to determine if they are self directed learners and possibly share their life story with others who may be in similar situations

21. Conflict(s) of Interest (See Instructions p. 12 & Table 3, Item 5, p.15)

a. Have you or will you or a member of your immediate family receive, from the sponsor of the research, financial or other forms of compensation?

_____x_____ No _____ Yes

a. Do or will you or a member of your immediate family have a vested interest in the company/agency/firm that is to sponsor the research (answer "no" if there is no sponsor for the research.)

_____x_____ No _____ Yes

If the answer to either 21a. or 21b is yes,
(1) Describe the relationship between you or a member of your immediate family and the sponsor of the research.

and (2) Include a statement in the consent form addressing potential conflicts of interest (see Table 3, Item 5, p. 15) **or state below why you believe such a statement is not necessary for the protection of human subjects.**

a. Are you submitting FDA form 3454 or 3455 (Conflict of Interest)?

_____x_____ No _____ Yes
If yes, please enclosed two (2) copies with this application

22. Consent Procedures (See Instructions pp. 12-14)

CHECKLIST: Check off that you have included each of these items. If not applicable, state N/A:

[ ] Completed and **signed application**

[ ] The correct number of copies of the application, **instruments** (e.g., surveys, interview questions, questionnaires, etc.), and **measures** according to the category of review (See Instructions, Table 4, p.18)

[ ] Copy(s) of **consent form** (or script for verbal consent) and debriefing document, if applicable

[ ] Two copies of **grant application for FULL REVIEW projects**, if applicable

[ ] Two copies of FDA form 3454 or 3455 (Conflict of Interest), if applicable

[ ] **Advertisement**, if applicable

[ ] One complete copy of the **methods chapter** of the research proposal (if available)

APPENDIX B.

COVERLETTER TO ALL SUBJECTS

Cover Letter to all Subjects

Stuart Blatt
2404 White Birch Tr.
Howell, MI. 48843

Dear _____

My name is Stuart Blatt and I am physical therapist and a doctoral candidate at Michigan State University. I am writing this letter to request your assistance. The extent of your participation will be no longer than 15 minutes. Before I share with you the nature of the assistance I am requesting, I would like to tell you a little about myself and my dissertation project.

I have been a physical therapist for over 16 years and I worked for the Michigan School for the Deaf for 6 years. It was during the time I worked at the Michigan School for the Deaf that I developed an appreciation for Deaf culture. This appreciation developed into an admiration and a deep curiosity about how the Deaf community and Hearing community interact.

The topic and purpose of my dissertation entitled A Study of Developmental Function which Influences the Emergence of Self-Directed Learning Behaviors: In Children of Deaf Adults is to explore the development of Children of Deaf Adults (CODAs). CODAs are a unique set of individuals, who represent a rich resource of knowledge which I believe will benefit k-12 education programs for both Hearing and Deaf children.

CODAs develop during their formative years in a Deaf household and then they are integrated into the hearing world when the enter the k-12 education system. It is the transition into the hearing world which is of particular interest to me. To my knowledge there is no formalized approach to assist CODAs integrate into the hearing world. Therefore it is my belief that CODAs develop their own ways to transition themselves into the hearing world and thus self-direct their learning.

It is this concept of self directed learning which is of particular interest to many members of the adult learning community(My Ph.D. will be in the field of adult learning). I believe that CODAs are more self directed learners as adults in comparison to their peers, due to the fact that they learned how to be self directed early on in their life.

In order to prove this theory I am requesting your assistance to complete a Self Directed Learning questionnaire. The questionnaire has been tested on many groups of adults who profess to be self directed learners. To my knowledge it has not been used on the CODA population which I believe has valuable information to add to the field of Adult Learning..

The questionnaire should not take more than 15 minutes to complete and all results are anonymous. If you are interested in your results there will be a mechanism where the results of your questionnaire will be sent to you. A copy of the completed project will be made available to those who express a desire to see it.

The success of this project is based on how many people choose to complete the questionnaire. The more people who complete the questionnaire the more reliable and valid are the results of this study. Ultimately this means there is a greater likelihood that self directed learning will be adapted and included within the k-12 curriculum.

In addition to the questionnaire, I am hoping to conduct 7-10 interviews with CODAs to learn how they specifically transitioned into the hearing world. The purpose of the interviews is to hear various life stories so that a deeper meaning and appreciation of the CODA experience can be understood.

If you would like to participate in the in the questionnaire portion of this study please respond to the email or return the enclosed postcard with your name and address so that a questionnaire can be sent to you.

If you would like to volunteer to be considered in the interview process in addition to the questionnaire, please include a phone number with your name and address so that I can contact you and arrange a time when we can meet. The interview process may last between 1.5 and 3 hours. The people who volunteer for the interviews will be selected randomly from the pool of volunteers.

Please feel free to share this letter and the information with other CODAS you may know. I hope are willing to participate in this worthwhile study.

Thank you very much in advance for your assistance,

Sincerely,

Stuart Blatt

APPENDIX C.

DEMOGRAPHIC DATABASE FOR ALL SUBJECTS

Demographic Database for All Participants

Please answer the following questions as part of the overall database of information. As the information from the questionnaires and the interviews is compiled it is desirable to have some personal information so that greater insight into the effects of the environment on self directed learning behavior could be achieved. If you do not wish to answer a question or if the question does not apply please mark N/A.

Name

_____

__

Address_____

_____

_____

Date of Birth_____ Age _____

Gender male _____ Female _____

How many siblings do you have? _____

How many siblings are deaf? _____

How many siblings are hearing? _____

Are you the first hearing child in your family? Yes _____ no _____

If no, how many hearing siblings are older than you? _____

Do you sign ? yes _____ no_____

If yes, how often do you sign? Daily_____ weekly_____ monthly_____ yearly_____

Are you married? yes _____ no_____

Is your spouse; deaf _____ hearing _____

Do you have children? yes _____ no_____

How many are: deaf _____ hearing _____

Do your children sign? yes _____ no_____

What is your highest level of education?_____

What is your occupation? _____

APPENDIX D.

INTERVIEW PROTOCOL

A Study of Developmental Function which Influences the Emergence of Self-Directed Learning Behaviors: In Children of Deaf Adults (CODAs)

INTERVIEW PROTOCOL

Overview

The purpose of this interview is to gather information and gain insight into the educational process, which CODAs undergo in the elementary years. The data from the interview will provide insight and understanding about life events, which contributed to your development as an adult learner.

During the interview process, I will ask questions related to your early school years and how you perceive that those events impacted your life as an adult learner. It is my belief that you will consider each question separately and with insight, so that a greater understanding about pivotal life events and their long-term impact can be better understood.

Self Directed Learner's Attributes	**Questions**	**Follow up questions**
Love of Learning	1. Please assess your love of learning? 2. Please recall your earliest memory when you enjoyed a love of learning task? 3. Why was it meaningful? 4. What impact do you believe that event had on other learning events, later in your life?	Was there person(s) who was influential in this experience?
Self-concept as effective independent learner	1. Please assess yourself as an independent learner? 2. Please describe an event in your first years of schooling when you learned something on your own? 3. How did you resolve that conflict in your mind? 4. What impact do you feel that event had on subsequent learning experiences?	\What was the response of others around you?
Tolerance of risk, ambiguity, and complexity in learning	1.Please assess your ability to tolerate ambiguity and complexity in a earning situation? 2.Please describe an event in your first years of schooling when you felt conflicted over what you were learning? 3. Why was it meaningful? 4. What impact do you think that event had on your future learning	What was the response of others around you?
Creativity	1. Please assess your level of creativity as it relates to learning? 2.Please describe an early school event when you believe you demonstrated a unique approach to solving a problem?	What was the response of others around

	3. Why do you think you needed to develop an alternate approach to the approach offered? 4.How did this unique approach manifest itself later in your life?	you?

Self Directed Learner's Attributes	**Questions**	**Follow up questions**
View of learning as a lifelong beneficial process	1. Please assess your level as a life long learner? 2. Please describe how you approach learning a new task as an adult? 3. Is your approach satisfying to you? 4. Do you recall any events which occurred during your early school years which facilitated the development of this learning style?	Do you have different approaches for different tasks?
Initiative in Learning	1. Please assess your level of initiating in a learning situation? 2. Please describe a time during your early education years when you learned something without anyone's help? 3. Was it satisfying to you? 4. What impact do you think that event had on your learning as an adult?	
Self understanding	1.Please assess your level of self understanding as it relates to learning? 2. Do you think about how you learn? 3. Do you think about it before or after the learning task? 4. Is the reflection process satisfying to you?	
Acceptance of responsibility for one's own learning	1.Please assess your ability to take responsibility for your own learning. 2. What conditions are conducive to the acceptance of learning? 3. What conditions impede your learning? 4. Do you enjoy sharing responsibility with others for your learning?	

APPENDIX E.

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