CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

COMMUNICATION ASSESSMENT OF DEAF PERSONS WITH LANGUAGE DYSFLUENCY

A graduate project submitted in partial fulfillment of the requirements

For the degree of Masters of Arts in Interdisciplinary Studies

By

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Dedication

To my loving husband Gerald, and our two girls, Heidi and Gita.
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Project: Communication Assessment Profile
Glossary

Accent is defined as a speaker’s difference in pronunciation where the grammar is pretty much the same. Accents can mark a speaker by his or her regional or geographic origin, along with social factions of education level or attitudes (Meyerhoff, 2006). An example is the /l/ sound replaced with the [ɹ] sound for English second language Asian speakers because of the liquid sound not existing in their phonetic inventory (Hayes, 2009, p. 8). “[ ]” is a phonetic represent of the sound of the word, whereas “/” denotes the phonemic representation of the word (Hayes, 2009).

An accent in sign language can appear as a different handshape, movement, location, [palm] orientation, and/or non-manual signals which is the production aspect. For example, the signs BLACK, FUNNY, BORING, CUTE, BUTTER, NAME, HOSPITAL and RABBIT can be signed with the dominant hand thumb extended or closed. This slight variation in the handshape can cause an accent with all other parameters of the sign being relatively the same (Baker-Shenk & Cokely, 1980).

Alingual represents those individuals who have “no mother tongue, no sign language” (Schaller, 1991; Fournier, 1994, p. 87). This means their communication system may be in a more basic form: gesture, pantomime, mimic language or a blended form of several language conventions such as English, Spanish, and American Sign Language.

American Sign Language (ASL) is the sign language used in the United States and Canada. According to Siple (1978, p. 6), changes in ASL are "governed by the ease of perception and production" of a sign. For example, large two-handed signs tend to be symmetrical making them easier to perceive resulting in an ever growing and evolving language. Sign language is not universal, just as there is no universal spoken language. Ethnolouge has cataloged 130 different sign languages used throughout the world (Lewis, Paul, Simons & Fenig, 2015). Gallaudet University puts the number of sign languages at 271 (Stamp, 2015). Gallaudet University is located in Washington, D. C. and is a federally funded chartered private university for deaf and hard-of-hearing undergraduate students. It is known as the world's university for higher education and career development for deaf and hard-of-hearing students. Gallaudet University also conducts research on the history, language, culture, and other topics related to deaf people (Gallaudet University About, 2015).

Assessment for this project is defined by Steward and Kluwin (2001) as a collection of data in a systemic way, which the project will try to follow when composing the Profile and Skills Inventory section.
Audism is "the notion that one is superior based on one's ability to hear or behave in the manner of one who hears," as described by Humphries (1977, p. 12). It was coined by Tom Humphries in 1975 to describe audiocentric assumptions and attitudes of supremacy (based on hearing and speaking abilities) (Eckert & Rowley, 2013; Bauman, 2008, p. 13; Humphries, 1977).

Hearing people are of the social majority and have the power and influence over decisions affecting "legislation, policies, professional organizations, and research agendas" (Gournaris & Aubrecht, 2013, p. 75). Tuccioli defines hearing privilege as "advantages or entitlements that are enjoyed by people who can hear which are denied to those who are deaf" (Tuccioli, 2007, p. 23). Examples are: speak to others in your immediate area in your first language and not in the deaf individual's; watch anything on television without requiring captioning; go to an event without needing an interpreter; do not have your intelligence questioned; can go out without requiring paper and pencil for communication purposes; do not have to worry about if you can lip-read someone properly, and more.

Augmentative and Alternative Communication (AAC) includes other forms of communication such as, but not limited to: oral speech, gestures, mimes, pantomimes, drawings, or writing via paper, electronic devices, and communication boards. These are other forms to express: thoughts, feelings, needs, wants or ideas. 
http://www.asha.org/public/speech/disorders/AAC/

Auslan is Australian Sign Language and is the dominant sign language used in Australia.

BASL is Black American Sign Language.

BSL is British Sign Language, used mainly in Great Britain.

Chereme or cherology is Ancient Greek for “hand” which is synonymous with phonology and phoneme for spoken languages. Chereme is used with the study of sign languages and the “hand” with its representations: handshapes, [palm] orientation, movements, and location in relation to the body and its employment in a particular sign language.

Code is a system of signals whether they be written, spoken, gestured, electronic produced, which are arbitrarily employed to represent words, phrases and/or sentences of a language (Baker-Shenk & Cokely, 1980, p. 458). Also see pedagogical sign system.
Communication modality is a method used by the deaf individuals to express ideas, emotions and intentions when interacting with other (deaf or hearing) individuals (Baker-Shenk & Cokely, 1980). Examples of these methods can be one, or a combination of several of the following: lipreading, sign language (ASL or another country's sign language), speech (speaking), pedagogical signing system (see Appendix A for examples), writing, fingerspelling, lexicalized fingerspelling (see Appendix H for examples), pantomime, or gesture.

Competency (of a spoken or signed language) is noted by Chomsky (1965) as the individual’s knowledge of his or her language. Halliday (1976) argued that it is what the individual does with the language in a sociolinguistic environment. Campbell and Wales (1970) proposed a broader definition where grammatical knowledge is not the be all and end all, it is based more on the knowledge to interpret and produce meaningful responses.

deaf, a lower case 'd' is used as an adjective referring to the hearing loss, the medical-pathological perspective (Lucas, 2001). This is referred to as an audiological condition of not being able to perceive sound (Padden & Humphries, 1988; Schild & Dalenberg, 2012). Deaf, deaf, and d/Deaf are conventional uses and displays found in literature on deafness (McCaskill, Lucas, Bayley, & Hill, 2011).

Deaf, with a capital D is used to indicate those who consider themselves both culturally Deaf and members of the Deaf community (Bridges & Metzger, 1996). Deaf denotes “a particular group of people who share a language and a culture” (Padden & Humphries, 1988, p. 2). It also represents a self-identification into a socio-cultural linguistic community.

Deaf/Blind – deaf-blind, Deaf-Blind refers to an individual who has been medically and/or legally determined deaf and blind or the individual self-discloses she or he is deaf and blind. A deaf/blind individual has a dual sensory loss – vision and hearing. There are many causes as to why the individual became deaf and blind along with which one came first. This minority group is subgroup within the Deaf community and is considered beyond the scope of this project.

(Certified) Deaf Interpreter (CDI or DI), according to NCIEC (n.d.), is a specialist providing interpreting and transliteration services in ASL and other visual and tactual forms of communications used by deaf, hard-of-hearing, and deaf/blind individuals. A DI has a set of linguistic, cultural, and life experiences to enable a wide range of understanding of the visual language from various regions, cultures, ages, and more. DIs work often in tandem with hearing interpreters (a.k.a. Sign Language Interpreters).
Deafness has been known as the invisible handicap because it is virtually unseen. There are no overt manifestations of the disability (Braden, 1994, p. 50). Black (2005, p.16) states that deafness is the only disability where its members share a common language and culture. Brauer, Braden, Pollard, and Hardy-Braz (1998, p. 302) clarify that these members "share a common language not shared by the dominant hearing society and in which most members do not learn their native language and cultural identity from their parents." The Deaf community, culture and ASL are passed as a horizontal enculturation, rather than vertically from (hearing) parent to (deaf) child (Pollard, 1992, p. 98).

DGS is Deutsche Gebärdensprache, also known as German Sign Language.

Deprivation (language deprivation) can be created by various factors. Examples of these factors are, but are not limited to: neurological problems, birth deficits, diseases (meningitis, rubella, prematurity complications of Rh factor, genetics, etc.), delayed first language acquisition, little to no exposure to a language, and brain injuries (e.g., TBI) (Glickman, 2009; Crump & Glickman, 2011). Dr. Sanjay Gulati, M.D. presented on this topic of Language Deprivation Syndrome, retrieved from https://www.youtube.com/watch?v=8yy_K6VtHJw

Dialects are said to be the sub-variety of a single language. Dialects differ in more ways than one: spelling, sounds, grammar, and pronunciation. Some spoken English examples in the United States are: subway vs. hoagie vs. hero; and long johns vs. thermal underwear (thermos). Other spoken English examples in the United States are: wrestling /æslɪŋ/ vs. rastlin [æslɪŋ]; dog /dɔɡ/ vs. dawg [dɔɡ]; and car /kɑr/ vs. caa [kɑː]. “[]” is a phonetic represent of the sound of the word, whereas “⟨⟩” denotes the phonemic representation of the word (Hayes, 2009). There are, in spoken English, African-American Vernacular English (AAVE), Chicano English, New York Latino English, Pennsylvania Dutch English, Yeshivish, and Hawaiian Creole English, to name just a few.

In the Deaf communities, there is BASL (Black American Sign Language) (McCaskill, Lucas, Bayley, & Hill, 2011). Shroyer and Shroyer (1984) researched the various dialects in ASL across the United States. Some examples are: 22 different signs for BIRTHDAY, 11 for PICNIC, and 13 signs for SUNDAY.

Deaf Plus (or Deaf +) refers to a deaf individual who has a hearing loss in addition to other conditions that affect the individual, e.g., medically, physically, emotionally, educationally, or socially. The deaf individual could have one or more of the following: visual impairment, developmental delays, traumatic brain injury, autism, learning disability, etc. (Morris, 2009).
Dysfluency (language dysfluency) is the outward appearance of what has taken place with language deprivation. The individual is not a skilled user of the language, and for this project, it refers to a sign language (i.e., American Sign Language). The underlying reasons for this person to master a language is due to language deprivation factors (Glickman, 2009; Crump & Glickman, 2011).

Etiology is the cause or set of causes, i.e., disease, medicine, and/or accident, which caused the individual to have a hearing loss.

Fingerspelling (a.k.a. the Rochester Method) is a system of hand formations corresponding to the 26 letters of the English alphabet (Vernon, Schein, White, Hanson, Rice, Milligan, Thornton, Vernon, Williams, & Matthews, 1967).

Fluency (of a spoken or signed language) is the overall speaking or signing proficiency of the language (Lennon, 1999).

Fund of information (FOI) is the amount of information the individual retains from past experiences (Pollard, 1998).

Gestures are simply any movement of the body, face and/or hands/arms for the purpose of communication. Gestures found in ASL are rule-governed behaviors and are called signs. Signs are a special subset of gestures (Baker-Shenk & Cokely, 1980).

Gloss (also seen as GLOSS), according to Vicars (1997-2013), is a form of writing one language into another language's format. ASL does not have a written form: it is a 3-dimensional visual language. GLOSS can also be known as transcribing a language, e.g., the Bantu language has clicks in it. These clicks are not present in the English language, therefore there is a transcription convention that can be implemented and shown in English.

Hearing loss can be caused by, but not limited to: prematurity, meningitis, prenatal rubella, anoxia, maternal use of teratogenic medications, and certain genetic syndromes (Soukup & Feinstein, 2007).
Hearingness as a term has the same development as the term Whiteness, which has historically been a position of power when designing and administering programs especially in the field of providing a service (Glickman, 2013a, Lane, 1992). The central theme of this position is one of language oppression (Lane, 1992). Lane (1996) states that a naïve hearing person's encounter with a deaf individual, usually has no awareness the deaf individual is a cultural being. Hearingness is not only the ability to hear but includes a person's attitudes, beliefs, and values of Deaf culture (Lytle & Lewis, 1996). As H-Dirksen L. Bauman stated it, it is the process of identity change "from being a person who could hear to a person who was hearing" (Glickman, 2013a, p. 6). Are clinicians those who can hear (status) or a hearing person (culturally and linguistically) aware?

Home signs are a series of idiosyncratic signs deaf children with hearing parents or hearing family members develop because the hearing members do not know sign language (Bochner & Albertini, 1988; Deaf children use hands to invent own way of communicating, 2009). The article by Brady, Fleming, Thiemann-Bourque, Olswang, Dowden, Saunders, & Marquis (2012) refers to home-made signs as presymbolic communication. Emmorey (2002) stated the presentation of home signs resulted when the hearing parents did not expose their deaf children to sign language. The deaf children's deafness did not allow an acquisition of a spoken language; therefore, the deaf children were exposed to spontaneous gestures their hearing parents made when speaking to their deaf children.

Iconicity in sign language refers to the visual similarity of a sign and the referent, which can be an object, feeling or idea, itself (Konstantareas, Oxman, & Webster, 1978; Miller 2008). However, iconicity is not universal; what is an iconic sign in one language may not be in another. This project only examines American Sign Language used in the United States. An example is the sign for MILK is presented in the action of milking a cow.

Initialized signs are changed ASL handshapes replaced with the manual alphabet handshapes corresponding to the first letter of the English word (Baker-Shenk & Cokely, 1980). For example, the ASL sign, HAPPY, uses the handshape of B (noted as CL:B in transcription) is replaced with the letter G to denote the English word "glad." The movement, placement, and location is the same, only the handshape has changed. The natural forms of ASL are being changed to a pedagogical sign system format. Some examples of initialized signs are: FAMILY with the letter F, GROUP with G, TRY with T, and CLASS with C.
LEP means Limited English Proficiency. These are individuals who do not communicate effectively in English. Their primary or first language is not English and they have not developed a fluency in the English language. An LEP may have difficulty speaking, reading, or writing English. Though this term is used more often in the Spoken Language Interpreting community, it is used every now and then in the Sign Language Interpreting community.

Lexicalized fingerspelling is also known as fingerspelled loan signs. According to Patrie and Johnson (2011), lexicalized fingerspelling is not the same as fingerspelling. It is a change in the nature of the fingerspelled form. These are borrowed words. This means if a word is frequently spelled, letters within are dropped where vowels are the most common ones to be omitted. These lexicalized signs take on their own parameters which give the appearance of a sign. A lexicalized sign can have its own rhythm to give the appearance of a sign. When transcribing the lexicalized sign, it will begin with the “#.” Some examples of lexicalized signs are: toy #TY, fix #FX, bus #BS, yes #YS, what #W(H)T, soon #SN(at the chin). These loan signs can be one-handed or two-handed. See Appendix H for more examples.

Listeners are individuals who use their ears for the sounds made by speaking. Receivers are deaf individuals who use their eyes to understand the message being said (Baker-Shenk & Cokely, 1980).

Low incident group or disability are individuals with disabilities that include: blindness, low vision, deafness, hard-of-hearing, deaf-blindness, significant developmental delay, complex health issues, serious physical impairment, multiple disability, and autism. It is a categorical classification established by IDEA (the Individuals with Disabilities Education Act) in 1997. This term does appear in the literature and when used in this research, it is only referring to deaf individuals. Low-incidence refers to a population that has a disability that does not occur often within a school setting (National Center on Accessible Instructional Materials, 2012). High-incidence disabilities are more common in school age children. Examples are: communication disorders (speech and language impairments), learning disorders (ADHD), mild to moderate mental retardation, and emotional or behavioral disorders (National Center on Accessible Instructional Materials, 2012). In this review, this particular population is deaf individuals.

Mainstream(-ed or -ing) school is the practice of educating students with special needs in a regular classroom. Regular classes (a.k.a. Gen Ed – general education) and special education are taught in the same classroom. For deaf students, a sign language interpreter will be present for any and all instruction times.
Medi-Cal is the Medicaid program in California. This name is used for the California Medical Assistance Program (California Medicaid welfare). This program provides health care coverage to people who are low income, e.g. families, seniors, persons with disabilities, pregnant women and more. Those who qualify for Medicaid and Medicare are known as "Medi-Medis."

[The] National Association of the Deaf (NAD) is a d/Deaf organization for civil rights of, by and for deaf and hard-of-hearing individuals in the United States. They were established in 1880 and shaped by deaf leadership who believed in the rights of the American Deaf community, to use sign language and to congregate on issues important to them. The advocacy scope is broad and covers areas of early intervention, education, employment, health care, technology, telecommunications, youth leadership and more. http://www.nad.org/about-us

Non-manual markers (NMM), according to Valli and Lucas (2000) are facial expressions that accompany a certain sign. For example, the sign NOT-YET is made with the mouth slightly opened and the tongue slightly protruding. Without the NMM, the sign would be incorrect or would have a very different meaning.

Non-manual signals (NMS) are facial expressions, and head and body movements which are included within ASL (Bridges & Metzger, 1996). NMS are relevant in their role of morphology and syntax (a function of grammatical markers) in ASL. NMS do not involve the hands and contain at least six different roles. These roles are: reflections of emotional states, constructed action, conversation regulators (transitional markers), lexical, grammatical markers, backchanneling feedback, prosody, mouth morphemes, and modifiers (adverbs) (Bridges & Metzger, 1996).

Oral method is a training or educating of a deaf individual through speech and lipreading (a.k.a. speech-reading) without employing the use of a sign language or fingerspelling (Vernon, et al., 1967).

Pantomime is a communication modality involving bodily movements and conventional and/or unconventional gestures.

Pedagogical sign system or code is a manual presentation on how to visually present a language in an English format; thus, making the manual code a non-language but a signing system. This system or code was invented for educational purposes which relies on syntax and structure of natural occurring language. American Sign Language (ASL) is a natural occurring and evolving language (Baker-Shenk & Cokely, 1980). See code definition above.
Pidgin Sign(-ed) English (PSE) is not a true language; therefore it lacks grammar rules. It is a methodology to bridge the language gap between ASL and English. PSE contains a mix of ASL grammar rules along with some English grammar rules. The signs come from ASL; however, these signs may not be used in a more traditional ASL manner, though they could be seen in a more English-like style (Berke, 2014; Woodward, 1973).

Plates are contained in a booklet, which are laminated pages of images (e.g., photographs and/or drawings) of objects, people, and/or animals. Some plates contain only one image, and others may contain four images per plate. Each of the four images on a plate are numbered. The examinee responds to the question or prompt either by the number or pointing, where only one image is correct and the other three are foils.

Prelingual deaf is a deaf person who was either born with no usable hearing or a person who lost his or her hearing before the age of three, prior to spoken language acquisition (Vernon, et al., 1967; Vernon, Raifman, Greenberg & Monterio, 2001).

Post-lingual deaf occurs after the acquisition of spoken language (Iqbal, Dolan, & Monterio, 2004).

Receivers are deaf individuals who use their eyes to understand the message being said. Listeners are hearing individuals who use their ears for the sounds made by speaking (Baker-Shenk & Cokely, 1980).

Rh-questions are rhetorical questions which are asked but there is no expectation of an answer. This form is used often in ASL where a connection is provided in what the signer is presenting. An example in English is: I am tired, why, I studied all night long. “Why” is not the only rhetorical question word, others are REASON, WHEN, WHO, WHAT, WHERE, and FOR-FOR. See Appendix F for Transcription Conventions used when formatting ASL into a written English format.

Residential Deaf school is a school where all the children attending are deaf. Education instruction is done in sign language. The students live at the school unless their families live very close; then they are taken to school every day. This can be synonymous to a boarding school; however, the educational institution is designed to accommodate deaf children in a sign learning style.
Simultaneous method (a.k.a. SIM-COM or Sim-Com) is a communication modality of signing and speaking at the same time. This method is trained to deaf children or adults to communicate using both a pedagogical sign system or sign language while speaking. Both of these forms of communication are presented at or near the same time (Vernon, et al., 1967). Competence in English and sign language is essential. Also see Total Communication.

Skill degree (or level) of a language is the type of proficiency the individual has in his or her language, e.g., native, near native, excellent command (signing and writing), very good command, good working knowledge, and basic working knowledge.

Thought worlds as referred to by Leigh and Pollard (2011) as deaf cognitions. This means the following:

The unique visual-gestural modality of sign languages, their substantial structural and production differences from spoken languages, the behavioral norms of Deaf culture, and the very experience of growing up and living life with versus without the sense of hearing combine to yield quite different “thought worlds” between Deaf and hearing people. (Leigh & Pollard, 2011, p. 271; Glickman, 2013b, p. 14).

Total Communication also known as TC or SSP (sign support speech or sign with speech) is a mixture of gestures, sign language and lip movements. TC and Sim-Com (simultaneous communication) attempt to reproduce each English word spoken into a visual representation. However, this method presents two totally different languages, spoken English and ASL, which is impossible to do. Therefore, one language will be dominant where the grammar rules and structure are more adhered to which is spoken English.

Wh-questions refer to the words that have "wh" in them, such as: what, when, where, why, which, how, whom, and who. Examples of English wh-questions are: Where is John? Why is Mary late? How do I find Avenue of the Stars?

Word, the reference of word throughout the linguistic discussion is commonly used in sign languages. From a linguistic perspective, word is a category of a linguistic structure that functions independently in a sentence structure. In a sense, signs function as a word in the ASL language (Patrie & Johnson, 2011, p.103).

Yes-No questions (or displayed as Y/N-questions) are those that require the answer of yes or no. An example in English is: Is John home?
Deaf individuals with language dysfluency are faced with barriers and misplaced viewpoints, by mental health providers, when deaf individuals attempt to gain access to mental health services. The barriers often cause deaf individuals to be assessed using a medical-pathological construct, resulting in a misdiagnosis followed by erroneous delivery of social services. According to Long and Álvares (1995, p. 3) and Moeller (1988), these assessments do not provide a comprehensive view of the deaf individual's functional language skills. The objective of this project is to create a communication assessment protocol that retains the strengths of previous assessments while adding a new concept, i.e., a standardized signing skills inventory section (DVD) of the protocol. A second goal is to present a socio-cultural linguistic perspective by discussing the communication accommodation theory (CAT) convergence style for clinicians. The convergence style moves the clinician towards a communication behavior more accommodating to language deprived deaf individuals in order to create a culturally affirmative perspective.

*Keywords*: deaf, deaf adults, language dysfluency, language deprivation, mental health, American Sign Language, Communication accommodation theory (CAT), convergence, communication modality, communication assessment, language assessment, language evaluation, Deaf culture, Deaf community.
Chapter 1: Introduction

Deaf individuals have been described by their demographics (socioeconomic status, hearing loss degree, income, education, etc.) and their pathological factors causing deafness (perinatal infections, congenital cytomegalovirus infections, rubella, or meningitis). Some of these factors can and do affect the mental health of deaf people (Fellinger, Holzinger & Pollard, 2012; O'Donnell, 1991). It has also been found that deaf children who could not make themselves understood by their family members are four times more likely to be affected by mental health disorders (Fellinger, Holzinger, Laucht & Goldberg, 2009). The deaf adults presenting to clinicians can be misdiagnosed due to the lack of proper controls for language dysfluency (Landsberger, Sajid, Schmelkin, Diaz & Weiler, 2013). These researchers found that evaluations, diagnosis and treatments, are not culturally sensitive to the language (communication) modality, language fluency/dysfluency, deafness history and cultural identification of Deaf individuals.

There are various communication modalities that a person can use when interacting with deaf or hearing individuals when expressing ideas, emotions, and intentions (Baker-Shenk & Cokely, 1980). The modalities could be any one of these types: spoken English, written English, American Sign Language (ASL), pedagogical signing system (see Appendix A), another sign language, lipreading, gestures, fingerspelling, illustrations (stick figures), and more (Bender, 1966; Vernon, 1987). Thus, the communication can be composed of a combination of several modalities or just one modality.

Communication Accommodation Theory (CAT) formulated by Howard Giles in the 1970s observed the communication interactions, and selected modalities, between a
speaker and interlocutor (Sprecher & Reis, 2009). Giles observed how people adjust their communication patterns to each other (Sprecher & Reis, 2009). CAT specifies under what conditions the speaker will adjust his or her communication to reduce or emphasize the social distance interaction with other interlocutors (Sprecher & Reis, 2009). Giles, Coupland, and Coupland (1991, p. 2) identify CAT as a speech-style modification. These authors continue by saying that accommodating may constitute a linguistic interaction. CAT discusses a process whereby a speaker (or signer) adapts his or her linguistic behavior and attitudes to the interlocutors' linguistic and attitude behaviors encompassing a convergence with or divergence from the interlocutors' normal communication manner (Meyerhoff, 2006). According to the Dictionary of Media and Communication (Chandler & Munday, 2014, e-edition) the theory, under linguistics definition, suggests "people adjust their speaking styles in order to fit in with others."

Convergence, an adjustment, highlights the similarities in the speaker's (or signer's) speech or signing styles to that of the interlocutors. The desire is for all involved in the communication interaction to have a continued conversational connection. This can also facilitate comprehension. The adjustment to speaking styles is perceived as a positive action and is socially effective. Kline and Ceropski (1984) discuss how the speaker adapts his or her message to the listener's characteristics and can generate good health habits, especially if the settings are in the healthcare environments. This approach centers on the patient or person in the language interaction.

The other speech (or sign) interaction is called divergence. The speaker is seen as desiring respect, cooperation and/or compliance from the listener. Divergence is also known as a non-accommodating approach. The speaker emphasizes his or her speech
and nonverbal differences between himself or herself and the interlocutor (Giles, Coupland, & Coupland, 1991, p. 8). A divergent example is a speaker using a prestigious form of a language, e.g., psychological terminology, to present an image of a reputation, good standing in the community, and knowledgeable person. The speaker maintains his or her own idiosyncratic speech and nonverbal characteristics (Giles, Coupland, & Coupland, 1991, p. 10). Divergence approach focuses more on position-centered communication, power differences and role knowledge (Kline & Ceropski, 1984) and turns the speaker (clinician) away from the interlocutors' linguistic and attitude behaviors. Divergence emphasizes the differences between the speaker's (or signer's) speech or signing styles to that of the interlocutors, which can serve as a shield (Meyerhoff, 2006). Practitioners¹ and clinicians² are often challenged in how to provide services with the mindset of a medical-pathological construct (Baker-Shenk & Cokely, 1980; Landsberger, Sajid, Schmelkin, Diaz & Weiler, 2013). In an ideal world, the practitioner would understand the terminology used within the field of deafness (e.g., its history, culture, and language of the Deaf community) to afford a better guide to the services they provide (Brice, Leigh, Sheridan, & Smith, 2013; Scheier, 2009), which would provide a form of communication convergence.

I propose to employ an interpretive perspective, along with CAT, to better identify the needs of deaf individuals with issues of language dysfluency when attempting to access mental health services by developing a communication assessment protocol. The protocol contained in this project is called the Communication Assessment [Profile], with a Skills Inventory section, for Deaf Adults with Language Dysfluency. The Profile is to assess the functional language skills of deaf adults and is intended to
afford an assessment of the deaf individual's strengths and weaknesses across a spectrum of communication modalities, which is designed to identify and assist the mental health team in communication strategies (Williams, 2009). Competency, of the deaf individual, is viewed from the perspective of how the individual uses his or her language in a sociolinguistic environment and what is her or her knowledge of his or her language (Campbell & Wales, 1970). Fluency in the language means of the overall signing proficiency (Lennon, 1999) of the various signing skill levels (native, near native, excellent command, very good command, good working knowledge, and basic working knowledge). Therefore, competency in a communication modality does not correspond with fluency or skill level of the language (performance). Competency is structured to permit the deaf individual to demonstrate his or her communication skills within his or her language dysfluency range.

The need for this protocol is to provide deaf individuals with the same level of mental health services as their counterparts (hearing individuals) receive. There seems to be a tendency for a divergent communication perspective to be utilized as the deaf individual struggles for access to mental health services. Therefore, given the reality of the individual's struggles, this project facilitates a convergent approach for clinicians to be able to communicate with the deaf client. Assessments, tests, and evaluations will be reviewed to retain the good aspects of each of the existing instruments and combine them into a more standardized version, augmented with new approaches to assessing deaf individuals with language dysfluency. The aspects not retained did not lead to the overall goal of the Profile. Instances of missing elements are supplemented by the current author, i.e., a DVD containing video clips. One missing element in particular is the
standardized sign style Skills Inventory section within the Profile. This standardization is to establish the deaf individual's language baseline.

Quantitative methods of collecting data, with deaf individuals in mental health and language dysfluency, continue to be the norm for many theorists and researchers. Deductive theorizing approaches attempt to answer questions regarding how and why deafness affects deaf individuals. Many belief systems on how to diagnose and apply treatments are founded from this type of paradigm. Quantitative data gathering, which compares and contrasts deaf individuals with their hearing cohorts, attempts to use this method of data collection to understand the problem of deafness. This approach is viewed as the medical-pathological perspective, a term coined by Baker-Shenk and Cokely (1980). Roger Williams has said it well: "hearing people live among deaf people so blissfully unaware" (Pallarito, 2012, p. 15), so the clinicians must become aware to successfully deliver social services.

However, recent research shows viewing the deaf individual in a Deaf-centric mode where the research is done by qualitative analysis from an interpretive perspective may offer advantages to reliance on more traditional methods (Glickman, 2009; Glickman, 2013b; Glickman & Pollard, 2013). This approach has been shown, by these authors, to be more successful for deaf individuals than the findings from the quantitative research or more objective, traditional perspectives. Unfortunately, the Deaf-centric mode application is not widely used, in part, because the application emerged as a clinical discipline in the late 20th century (Black & Glickman, 2006, p. 2; Pollard, 1996).

This project focuses on a gap seen within communication assessments used in the mental health field. The communication assessments found in the fields of psychology,
education, rehabilitation, and speech language pathology all have an objective when interviewing a deaf person. The field of psychology is assessing for cognitive functioning. The educational standpoint tests for language and social development. The field of rehabilitation evaluates for employment abilities (Nester, 1984). And, according to Long and Alvares (1995, p. 3), speech language pathologists conduct communication assessments oriented in identifying a communication pathology. These fields center on the individuals' communication disorders and how it affects various aspects of their life. As Long and Alvares (1995, p. 4) and Moeller (1988) have stated, these assessments do not provide a comprehensive view of the deaf individual's functional language skills. The missing perspective in these assessments is of a communication lens. One objective is to determine the communication modality the deaf adult uses and/or prefers. Determining the individual's communication is a form of bridging the gap, a process to connect communities, e.g., the mental health and the Deaf community, both culturally and linguistically, and to allow for mental health care access. There are few clinicians who are knowledgeable of cultural, social, educational and linguistic differences found within the deaf population (Long & Alvares, 1995). Of those skilled clinicians qualified to evaluate deaf adults, they must adapt hearing-based profiles to fit their deaf clients.
Chapter 2: Literature Review

Levin (1981) and Swanson (2007) claim that relatively few clinicians are trained to work with the deaf population. This leads to difficulties with diagnoses and delivery of social services. The clinicians are provided with general information of the etiology and epidemiology of deafness, but not its effects on the individual – cognitively, socially, emotionally, educationally, and physically. For example, clinicians often base their conclusions about mental illness on the spoken and written language skills of deaf individuals, especially those who do not possess fluent language skills, e.g., English and/or sign language (Glickman, 2007). McEntee (1993) noted, clinicians who receive deaf clients that gesticulate wildly may more likely make a misdiagnosis than with a hearing client who can be understood more easily. Clinicians cannot be effective unless they understand the various communication modalities.

Pallarito (2012) observed that researchers do not have an understanding of the Deaf community and its needs, such as being included in the mental health process. Some examples of the deaf individual's needs are: provision of a sign language interpreter, non-verbal attention getting as an indicator for a deaf patient to know his or her name is being called, eye contact with a deaf patient, and/or not turning face or body away when talking to deaf patient. There is a need to review the literature in three areas: (1) the medical-pathological health care perspectives on deaf mentally ill patients; (2) communication styles/modalities and the mindset of healthcare providers; and (3) assessments and evaluations. Reviewing these three components will assist in determining how a communication assessment is presently rendered for a deaf adult with language dysfluency.
Medical-pathological Approaches to Language Dysfluency

Studies in which a medical-pathological approach have been taken, have produced conflicting results regarding such aspects as people with a hearing loss have poorer health status (Kurz, Haddock, Van Winkle, & Wang, 1991; Ries, 1982; Zazove, Niemann, Gorenflo, Carmack, Mehr, Coyne, & Antonucci, 1993), and people with a hearing loss tend to use health services less (Ebert & Heckerling, 1995; Pollard, 1994). According to Barnett and Franks (2002), these studies contained inconsistencies in their findings, especially in terms of how the population was defined: sociodemographics were ignored (Ries, 1982); the differences between types of hearing loss, in addition to, having poorer health status (Kurz, Haddock, Van Winkle, & Wang, 1991); age of onset of deafness (Kurz, Haddock, Van Winkle, & Wang, 1991; Pollard, 1994; Ries, 1982; Zazove, et al.,1993); small sample size (Ebert & Heckerling, 1995; Zazove, et al., 1993); and limited generalizability (Ebert & Heckerling, 1995; Pollard, 1994). These inconsistencies result in difficulties in trying to identify the health care needs of deaf patients. The different types of hearing loss influence communication and socialization, which in turn, impacts the learning process along with communication. These studies reviewed survey data collected by the National Center for Health Statistics, surveys of medical physicians, public mental health records including a cross-sectional survey, and a medical-pathological approach, to suggest the cause of deafness and its effect on deaf individuals.

This perspective presumes that deafness is fixable and reflects an older, positivist perspective. The medical-pathological approach may lead to a misdiagnosis which could then be followed by incorrect delivery of social services. In these studies, deaf
children/adolescents/adults have been compared to their hearing counterparts by way of hearing-based tests and standards, observing the deaf adults from a distance, using clinician’s instruments and tools, and clinician’s language preference in non-Deaf-centric controlled settings. These evaluations, diagnoses, and treatments are not culturally sensitive to the language modality, language fluency/dysfluency, deafness history and cultural identification of deaf individuals. The positivists' approach to research believes people behave in a patterned way; therefore, these observed patterns are predictions of deaf individuals' behavior based on applied hearing methodologies. The observations of the cause and effect cannot be applied to the deaf individual because deaf behaviors do not derive from hearing behaviors. It is synonymous to attempting to compare apples to oranges. Positivists develop and research according to deductive reasoning: think it, explain it, and then look for evidence to support the reasoning.

Quantitative analysis or converting data into a numerical format pertaining to deaf individuals, is the contextual analysis for positivist theorists and researchers (Babbie, 2013; Ebert & Heckerling, 1995; Kurz, Haddock, Van Winkle, & Wang, 1991; Pollard, 1994; Ries, 1982; Zazove, et al., 1993). Many belief systems in mental and medical health focus on the ears. The idea of how to diagnose and apply treatments are founded from this type of paradigm, i.e., get the numbers, then fix or cure the problem of deafness (Ferndale, Watson, & Munro, 2013).

Deaf patients in the mental health domain have been understudied and have not been considered a part of the discussion by many mental health providers (Landsberger, Sajid, Schmelkin, Diaz, & Weiler, 2013). Clinicians are often unaware of the opportunities, challenges, and communication accommodations needed to provide
culturally sensitive and relevant treatment to deaf patients (Landsberger, Sajid, Schmelkin, Diaz & Weiler, 2013). Without specialized training in Deaf culture and ASL, clinicians evaluate hand movements (signs), gestures, and facial expressions by the rules of hearing-based behavior and at times deaf-based and hearing-based behaviors are not the same (Barnett, 2002).

Deaf behaviors are often assessed and classified as bizarre, agitated or violent. These behaviors can suggest a mental health illness or disorder. A clinician may render a diagnosis that leads to a misidentification of the problem or illness (Swanson, 2007). The Diagnostic and Statistical Manual (DSM-IV) of mental health disorders recognizes cultural factors are important to assessments (American Psychiatric Association, 1990). Adding "Deaf Culture" would help the users of the manual understand deaf patients (Lala, 1998). Vernon and Andrews stated "...certain normal coping responses by deaf persons are misconstrued as abnormal by the general public" (Vernon & Andrews, 1990, p. 161). Dysfluent deaf people can display linguistic, cognitive, and/or communication disorganization; however, that is not a sole indication of a psychosis.

Clinicians, in handling the communication differences between themselves and their deaf clients, are lead to believe lipreading and writing notes (back and forth) will suffice (Smith & Berlin, 2000). If the deaf individual cannot access the spoken language, then clinicians typically offer the information in written English and assume all problems should be solved (Dotter & Hilzensauer, 2006). Clinicians often do not realize the deaf individuals struggle when learning English. Some clinicians believe deaf individuals read at the same grade-level as their hearing counterparts. Historically, fewer than 12% of deaf students at the age of 16 years read at a fourth grade-level or higher as found by
Furth (1966). The average deaf high school graduates who are judged by hearing English literacy standards in the United States, read at the third to fourth grade-level (Brueggemann, 2004; Chamberlain & Mayberry, 2008; Fels, Richards, Hardman, & Lee, 2006; Lollis & LaSasso, 2009; Lou, 1988; Scheier, 2009). Surprisingly today, the average grade-level is still the same, even with advances in education and technology. Bloomquist Traxler (2000) found around 10% of deaf students read at an eighth grade-level. Holt (1993) noticed the efforts to teach English and reading resulted in deaf students not reading at their age appropriate levels. Chamberlain and Mayberry (2008) suggested the low grade-level may relate to incomplete language acquisition whether it be signed or spoken. A clinician who accentuates the differences between him- or herself and the deaf patient employs the divergence aspect of communication accommodation theory. The divergence, also known as counter-accommodation, demonstrates an assumption that lipreading and writing notes are acceptable forms of communication. Clinicians are maximizing the linguistic differences between the individuals (clinician and deaf patient) (Griffin, 2012).

An example of counter-accommodation (divergence) is seen in an interaction involving an HIV diagnosis of a deaf person. The deaf patient is informed that he or she is HIV+, in written format. The "+" sign, medically speaking, has a negative connotation. The deaf individual interprets the "+" sign as good. However, in this situation, it is not a good outcome (Barnett, 2002). The deaf patient will continue leading his or her life in the same manner because the "+" sign is interpreted in error, thinking he or she does not have HIV.
The second example involves a deaf patient who became furious with the hospital for telling the police he had committed a crime. He had proof of the hospital's action, by pointing to the word "admitted" stamped across the front of his medical chart. He had not realized "admitted" has another meaning (Williams, 2015).

The third example is of a deaf mother whose child was being screened for "neural tube defects." The interpreter selected the sign for DEFENSE instead of DEFECT. (The capitalization of the words – DEFENSE and DEFECT – represents the English gloss for the ASL sign in a written format, [see Appendix B for Transcription Conventions]) (Williams, 2015). The mother thought the doctor said "neural tube defense." The mother decided the word "defense" is synonymous with prevention.

The fourth example is about a deaf patient whose doctor, during the office visits, would write notes about reasons for the visit. The doctor wrote that the deaf patient may need surgery. The patient thought the word "may" meant in the month of "May" (Williams, 2015). If this office visit was interpreted, the deaf patient would have seen that MAY (the verb) is signed differently from M-A-Y the month, which is fingerspelled. So his confusion lay with the understanding or the lack thereof of the English word. These examples demonstrated the lack of knowing the communications differences between the deaf client and clinician.

**Communication Modalities, Barriers, and Viewpoints**

As a result of the medical-pathological approach, there have been misconceptions or different mindsets about deaf people that can lead to errors in selecting the communication modalities, which do not reduce or remove communication barriers. As mentioned previously, a misconception of "read my lips," referred to as lipreading,
applies the practice of divergent communication in accentuating the differences between
the clinician and deaf client (Smith & Berlin, 2000; Vernon & Andrews, 1990, p. 206). Another misconception amongst many clinicians is that deaf people are hearing people who have a hearing loss (Higgins, 1983; Raifman & Vernon, 1996), which reaffirms the lipreading mentality. According to Meyerhoff (2006, p. 76), accommodation theory, specifically divergence, can be seen when the clinician is not attuning his or her speaking style or choice of language to facilitate comprehension by the deaf individual; instead he or she is selecting a language choice to “serve as a shield.” This shield represents the lack of knowledge and education to know how to provide services to a limited English proficient (LEP) person – the deaf individual. Lipreading is not an effective communication modality because the average deaf person can only understand anywhere from 5-10% of what is said on the lips (LaVigne & Vernon, 2003; McAlister, 1994). Not even half of what is said is understood. Lipreading experts can understand roughly 33% - 37% of what the speaking person is voicing, and these individuals are the minority (Alexander, Ladd, & Powell, 2012; Vernon & Andrews, 1990; Vernon, Raifman, Greenberg, & Monteiro, 2001).

The California Department of Mental Health (DMH) established a Cultural Competence Plan Requirements (CCPR). DMH established this plan according to the state of California regulations code to address mental health services to support the integration of cultural and linguistic competence in an attempt to reduce disparities identified by race, ethnicity, cultural, linguistic, low-incidence, and underserved populations. This policy includes a checklist with step-by-step procedures for mental health facilities for compliance ("California Department," 2010).
As mentioned above, even access to mental health services can have inherent barriers for deaf patients. A problematic area can be that the selected communication does not match between clinician and deaf client. Written materials, such as insurance forms or applications (Medicare, Medi-Cal, etc.) are written in a higher reading grade-level for the deaf client to comprehend. Some clinicians have the belief that the presence of a sign language interpreter will solve communication barriers. The interpreter's presence may not always solve the problem. Another problem is the transportation to/from the location, because the deaf client lives too far from the facility. A study exploring California's HMOs (Health Maintenance Organization) and PPOs (Preferred Provider Organization) found disparities in the perspectives between these health systems in providing access and deaf patients in receiving access (Moreland, Ritley & Romano, 2011). These disparities are because to the health care providers' concept of effective communication is not identical to the deaf patients' concept (DeVault, Garden, & Schwartz, 2011), resulting in deaf patients' health being poorer than the health of hearing patients (Barnett & Franks, 2002; Ebert & Heckerling, 1995; Kurz, Haddock, Van Winkle, & Wang, 1991; Pollard, 1994; Ries, 1982; Zazove, et al., 1993).

The HMOs and PPOs increased their mode of communication to their membership with: sign language interpreter services available upon request, member handbooks, member newsletters and websites. However, printed materials may pose a problem depending on the reading level of the deaf patient. Generally, written materials are created at an eighth to ninth grade-level. Some materials have been written at a fifth grade-level. Nonetheless, Bloomquist Traxler (2000) and Brueggemann (2004) found deaf individuals' reading grade-level ranging from 3.6 to 3.9. These findings show the
HMOs and PPOs did not provide printed materials at the appropriate reading grade-level for their deaf patients. This caused a communication barrier for the deaf patients to access healthcare services.

Another language medium presentation is video. Website videos are created in one of the following manners: a speaker presents the topic with captioning; a signer uses a pedagogical signing system with or without captioning; or a signer uses ASL with or without captioning. Deaf individuals prefer access to information via their primary language, sign language; however, the Internet is a text-based medium (Möbus, 2010). Möbus (2010) observed that good reading and writing skills would benefit the reader to assimilate the content; however, the average deaf individual's primary language is not English. According to Möbus (2010), the international Web Content Accessible Guidelines 2.0 (WCAG) (W3C, 2008) did not recognize the need for sign language on the web; thus, the WCAG seems to document accessibility for some disabled groups but not for deaf people.

An example encompassing communication modalities, barriers, and viewpoints, was found in Wisconsin Law Review by LaVigne and Vernon (2003). This Law Review article discussed the belief that a [hearing] sign language interpreter was not enough to provide effective communication. This particular article focuses on the language deficiency of a deaf defendant in the legal system. It presents, though in a different venue, how deaf individuals whose language skills are below average might not get their communication needs met by an interpreter. In one study, Jesse, deaf since birth, had minimal brain dysfunction, though was not classified as retarded. He was left with language skills that ranked him in the bottom 10-15% compared to the entire deaf
population. His communication modality was a mixture of ASL, English, home signs, and "street" signs. His average reading level was at a first grade to second grade-level (LaVigne & Vernon, 2003). Emmorey (2002, p. 206) explained that home signs develop when hearing parents do not expose their deaf child to sign language. The deaf child's deafness prevents him or her from acquiring a spoken language. Since the deaf child has no conventional language model, the deaf child picks up spontaneous gestures the hearing parents make when speaking to their deaf child. When Jesse entered his plea, he entered a plea of "no race" (LaVigne & Vernon, 2003, p. 846, 861). Our legal system is one of an adversarial system, pitting one attorney against the other. By this plea, Jesse did not want the lawyers to compete or to battle against each other. He did not want to be forced by the opposing counsel to answer questions in front of the jury. Talented and innovative interpreters were hired to communicate with Jesse, even though he still perceived the legal process as bizarre.

The other example provided was of Maryellen, also deaf since birth, and raised by a hearing family that never learned to sign. Maryellen is semilingual. She has the ability to communicate, but has never fully acquired any language (LaVigne & Vernon, 2003). She prefers to sign but is not fluent in either the manually coded signing system of English (MCE) or ASL. She mixes a signing system and signing language when she communicates. She reads at a second to third grade-level and is functionally illiterate. According to Brueggemann (2014, p. 3) in referring to the term "functionally illiterate," "there are several different answers out there and several different approaches to determining what is and isn’t 'functional' in terms of literacy." Brueggemann (2004) noted the average reading ability of deaf adults is 3.6 grade-level. No definitive research,
stating a description of functionally illiterate deaf individual, has yet to be found. Maryellen has some cognitive deficits, not retardation, which is due to her mother contracting rubella. Maryellen was provided with her list of required conditions, in written form, involving her child custody case. Maryellen did not follow these conditions, resulting in the termination of her parental rights. The court stated an interpreter was provided at every proceeding. Her termination case was dismissed since the supposed accommodation (sign language interpreter and written list of instructions) did not meet her communication requirements (LaVigne & Vernon, 2003). These two cases furnish examples for communication accommodation with divergence where the deaf individuals are put into a position of coming to the system's choice of communication modality, an impossibility for the deaf individual.

The judges in both cases met the requirements of the law with the provisions of certified sign language interpreters. However, both Jesse and Maryellen did not grasp what was being said and what it meant (LaVigne & Vernon, 2003). Their language deficiency and fund of information (FOI) gap interfered with communication about abstract matters such as the legal process (Pollard, 1998). FOI is the amount of information the individual retains from past experiences. It does "throw communication in the courtroom or the lawyer's office into a tailspin" (LaVigne & Vernon, 2003, p. 848). The court system, as does the mental health system, believes that if an interpreter is placed in front of the deaf individual, all communication from English to sign language and back will be done with no problems and done perfectly. This is another example of a misconception. Deaf people with limited language skills present a dilemma not only to
the legal system, but also to the mental health system. Sometimes an interpreter is not enough for deaf persons with language dysfluency.

Other limitations or challenges for deaf clients accessing the mental health system are: mental health insurance limitations, transportation to/from services, different [sign language] interpreters for each session, clinicians not trained for the specialized population, interpreting costs, and language dysfluency, to name just a few (Pallarito, 2012). These challenges all stem from the fact that between 81% – 90% of deaf children, with hearing parents, are delayed in learning their first language (late-first language learners) because the parents have little to no experience in how to communicate, let alone provide language exposure, to their deaf child (Schwenke, 2011; "Communication Options," 2000). Sadly, 64.7% of families in North America do not use sign with their deaf child (Braden, 1994, p. 35). Chamberlain, Morford, and Mayberry (2000) and Parton and Hancock (2011) claim that 75% of the hearing parents do not converse fluently in ASL. Gulati (2003) comments that of the 90% of deaf children with hearing parents, less than 10% of those parents are fluent signers. Eric Lenneberg believed the cognitive development of language is between two years of age and puberty (Young, 1981). Humphries, Kushalnagar, Mathur, Napoli, Padden, Rathmann, and Smith (2012) differ in their opinions, where they found newborns are designed for early acquisition of language. The language of a child is acquired in his or her early years, but when the child reaches the age of five, the brain's plasticity begins to decrease, thus closing the window of opportunity for first language acquisition and the critical language period (Humphries, et al., 2012). With little to no communication taking place between the parents and their child (Singleton, Supalla, Litchfield, & Schley, 1998), “language acquisition is delayed
not by deafness per se, but by an atypical language learning environment in which the parents don’t know sign language …” (Huang, Smith, Spreen, & Jones, 2008, p. 210). Many hearing parents have no desire to learn sign language, so they are discouraged from using sign language and are told this method of language acquisition could and may delay their child from learning English (Meier, 1991).

The results of late-first language acquisition, due to limited hearing parents support or involvement, are seen in adulthood with communication difficulties, enormous deficit in FOI, limited expression of ideas or feelings, and destitution of interpersonal relationships. The deaf individuals may have lessened self-esteem. Some may have been victimized by abuse, isolated, teased, maltreated, and misunderstood by hearing parents (Bicknell, 1974; Fellinger, Holzinger, Beitel, Laucht & Goldberg, 2009; Fellinger, Holzinger & Pollard, 2012; Glickman, 2013b).

As a result of late-first language acquisition, clinicians may not be prepared for the challenges of interviewing a deaf patient who signs, which requires a cultural approach with a Deaf-centric perspective. In addition, many clinicians do not realize ASL grammar is different from English grammar. ASL is a natural language whose elements of its language are not equivalent to the elements of the written English language, nor is ASL a translation of English (Fels, Richards, Hardman, & Lee, 2006). Deaf adults with language dysfluency live in a predominantly English speaking country. The majority of these adults have no native language to be fluent in, which is in and of itself a barrier with serious ramifications (Black & Glickman, 2006).
Assessments and Evaluations

The last area in the literature to review is the appropriateness of applying hearing-based assessments or evaluation instruments to a deaf individual. Deaf and hard-of-hearing individuals have been classified by various terms, relating to their intelligence, education, and/or signing skills levels to help the legal, medical and mental health systems understand their deafness (Dew, 1999; Black & Glickman, 2006). However, researchers (Bienenstock & Vernon, 1994) have demonstrated, even in the school (i.e., K-12) systems, an inexact terminology and inconsistent criteria are used to determine the types of services needed for students. They found that each state and the federal government have different definitions for disability conditions. Different definitions cause an inability to determine the number of students with disabilities or to compare states with each other for labeling and categorizing students. The definitions are not nationally standardized. It is difficult to classify a student as deaf or hard-of-hearing, followed by confusion in how to interpret the data of those classifications. The process of labeling and categorizing does follow an individual when entering into adulthood. Despite the inaccuracies, clinicians use this process of labeling to help guide them in deducing the mental health illness or etiology of a disorder.

Though this project is geared towards deaf language dysfluent adults, going back to the beginning and understanding the social and environmental influences of a deaf child will aid in how to assess language in the deaf adult. The categorizing or labeling of a deaf child by their hearing loss does not present a clear picture of his or her mental state, even in adulthood. As stated in the previous section, 90% of deaf child have hearing parents (Mitchell & Karchmer, 2004), and many of these hearing parents do not
learn or want to learn sign language. They feel it is incumbent upon the hearing parents for their child to learn spoken English. Thus, the deaf child spends his or her critical language acquisition period, birth to five years of age, learning how to say words (Humphries et al., 2012; Mayberry, 1998; Young, 1981). During the academic school year, students are tested to determine how the learning process is developing. Researchers have compiled resources for clinicians that best mesh with deaf students instead of applying hearing-based tests (Douglas, Lawson, Mauermann, Rosenthal, & Santa-Teresa, 2011; Rose, Barkmeier, Landrud, Klansek-Kyllo, McAnally, Larson, & Hoekstra, 2008; Vernon, Schein, White, Hanson, Rice, Milligan, Thornton, Vernon, Williams, & Matthews, 1967).

For those deaf individuals with severe intellectual and developmental disabilities, the use of "home-made signs" is more prevalent. Home-made signs are language-like gestures created to increase the deaf persons' communication as they grow (Deaf Children Use Hands to Invent Own Way of Communicating, 2009). The home-made signs are predominately used with family, friends, and neighbors. Brady, Fleming, Thiemann-Bourque, Olswang, Dowden, Saunders, and Marquis (2012) refer to home-made signs as presymbolic communication. Here, these authors believe a goal is to design a communication instrument and score methodology for interpretation to apply across the population of deaf children and adults with limited communication modalities. There is also a test to measure language ability, however, it does disfavor those with a language impairment and favors those who have had a normal developing language base (Skarakis-Doyle, Campbell, & Dempsey, 2009). Although this test is designed for young children and not for language impaired individuals, it could be administered to identify the time
range of when possible language delay occurred for a deaf adult. There is a nonverbal test designed for deaf subjects and is intended to serve as a standardized intelligence measuring instrument for age ranges of 3-16 years (Snijders & Snijders-Oomen, 1959). Again, though focusing on deaf adults, this may be a way to learn of the individuals' education level. These tests can provide a benchmark for communication accommodation in a choice of modalities.

Deaf individuals tend to do poorly on verbal tests in English which then denotes a low intelligence (Nester, 1984). These verbal tests frequently are used to determine employment. Nonverbal components demonstrate a more normal distribution of the deaf population since they tend to have more of a spatial, form perception, motor coordination, finger and manual dexterity inclination. In addition, these verbal tests often are used for employment, and as a result, the mental well-being of a person is affected. Therefore, these types of verbal tests should not be a part of the development of test instruments.

Vernon and Miller (2001) have postulated that historically, deaf people have been excluded from many professional fields, such as psychology, resulting in terminologies and vocabularies in these fields not yet developed in ASL. Hence, there are no concise signs or standardizations for words presented in these professions. With language deprivation, neurological disorders, and other developmental delays, this population uses language and other forms to communicate making it challenging to interpret psychological testing instruments (Vernon & Miller, 2001). A sign used by a language deprived deaf adult may have a different meaning than what a hearing observer perceives it to mean.
The last assessment reviewed is one given to clinicians to identify their thinking constructs and views they have placed on deaf people in general. Though it was designed for employee relationships, it could still be administered to clinicians to identify their opinions about deafness (Berkay, Gardner, & Smith, n.d.). The intent is to target negative attitudes of the clinicians to improve the working relationships between the clinicians and their deaf patients.

The research has demonstrated a lack of understanding between those who provide services and those who receive services (Ebert & Heckerling, 1995; Kurz, Haddock, Van Winkle, & Wang, 1991; Pollard, 1994; Ries, 1982; Zazove, et al., 1993). Clinicians (providers) have relied upon positivist perspectives which utilize scientifically based research founded on hearing-based instruments and tools for their observations. The deaf individuals (receivers) do not fit the hearing-based mold due to their deafness. These individuals have different cultures, languages, communication modalities, and barriers. Many clinicians have preconceived notions about deaf people that lead to a forced communication modality such as “read my lips” and other barriers created due to the deaf individuals' inability to hear. Attempts by various health organizations to reduce and/or remove the barriers only causes another communication barrier. This other barrier is the information materials (written or on video), which are at or above a grade-level of language dysfluent deaf adults. And finally, there are various intelligence measuring tools and/or instruments available for children and adolescents that might aid a clinician in determining the educational level of the deaf adult. There is an assessment designed for clinicians to learn how their thinking construct is of deaf people in general. Though only mentioned here as a suggestion in ascertaining the thinking and feelings clinicians
have of deaf patients, the outcome might aid in suggesting how the clinician-deaf patient relationship might be affected. The objective of the literature review was to present a historical collection of research stances to adopt for use with deaf individuals' to examine mental health and communication.

The literature review uncovered three central areas for discussion: (1) the medical-pathological perspectives when dealing with health care of deaf patients; (2) the communication styles/modalities and the frame of mind of the clinicians; and lastly, (3) the assessments and evaluations. As a result, to determine how communication assessments typically have been constructed, previous assessments were examined to determine who the collection of medical, psychological, and educational information was approached. More importantly, attention was placed on how the functional language skills were assessed. This current project seeks to remedy the communication assessment need by creating an assessment diagnostic tool for assessing the language deprivation in deaf adults. It proposes a tool that takes into consideration the variation of language dysfluency and its effect on the deaf individual's behavior. It is difficult to apply an assessment tool to deaf individuals because of the variety of factors that have and do influence their situation (Soukup & Feinstein, 2007). The proposed assessment tool may be used to assist the non-signing clinicians, to be more self-aware of this socio-cultural linguistic minority group, in an attempt to lessen the mental health barriers.
Chapter 3: Methodology

The compilation of this project, Communication Assessment Profile (known as the Profile), necessitated reviewing of available (visual) assessments, designed for children, adolescents, and adults. Each assessment researched was noted for its qualities and drawbacks to guide in the process of the compilation of the Profile. The greatest consideration was given to how previous assessments have been administered. The following contain two sections: the communication assessment profiles and the assessment testing tools. The communication assessment profiles are guidelines on the types of questions to assist in the data collection and the assessment tools are the visual methods of administering vocabulary evaluation.

Communication Assessment Profiles

Communication Complexity Scale (CCS). The Communication Complexity Scale (CCS) by Brady, et al. (2012) was developed for use with deaf children. It was modified by the current author to furnish a descriptive foundation of deaf adults with language dysfluency and to provide a methodological schema for visualizing the deaf client’s language level. Based on Brady, et al. (2012), the CCS focuses on categories of communication: perlocutionary (pre-intentional), illocutionary (intentional), and beginning locutionary (symbolic). Perlocutionary communication includes behaviors that are purposeful but not directed to another person, such as crying without an accompanying gesture or eye contact. The second category, illocutionary communication, includes gestures and/or vocalizations that are clearly directed to another person, such as eye gaze, touching and body posture. And finally, the third category, locutionary communication, is typically spoken words. These same aspects were applied
to deaf adults with language dysfluency with the same categories but with descriptions and examples of what communication and behaviors look like in a deaf adult. CCS was created with Deaf cultural and linguistic behaviors in mind, e.g., turn-taking, eye contact/gaze, attention getting, and more. The CCS table is contained within the Communication Assessment Profile.

Assessing workplace communication skills with traditionally underserved persons who are deaf. Long (1996) designed a communication assessment which heavily focuses on the deaf individual's functional language skills especially when dealing with employment. This assessment was constructed for rehabilitation counselors to employ when assessing employment abilities of the deaf individual. The protocol is divided into four sections. The first section introduces the protocol for the assessor (or user). There is a description of who are the traditionally underserved deaf population and what are the hallmark characteristics of this population, especially when approaching the communication assessment. This section also explains the rationale of the protocol. The subsequent sections collect data on the deaf individual, such as, education, medical history, employment, and more. Each section within opens with an explanation of the purpose and rationale for that section. The concluding section is one page summarizing what are the communication needs of the deaf adult. One of the requirements for the current Profile is an introduction of what is this communication assessment, who are the individuals being assessed, and what is the objective of the assessment.

Communication Profile. The Office of Deaf Services (2008) based this protocol on the Long (1996) protocol. The protocol was modified to fit the needs for mental health providers. Employment ability type questions and sections were removed. This
protocol has a sparse introduction and recommendation report (e.g., summary section). The other sections were modified to correspond with mental health communication needs and determine the functional language skills. The Long (1996) four page introduction was removed for the current Profile, however, each section retained a brief purpose and rationale for the data collection. The recommendation report provided only bullet items to guide the assessor. For first time assessors, the vagueness of the report section may cause some struggles in what a report looks like and how it is presented. However, the other sections contain relevant questions that do meet the project requirements.

**Communication Skills Inventory (2009).** Though this document is titled the same as the sample report (CSI, 2011), it contains a sparse section of data collection on the deaf adult (Williams, 2009). It also contains a scoring sheet (measuring instrument) to administer a speech recognition, speaking, reading, writing, receptive/expressive fingerspelling and receptive/expressive signing skills sections. In addition, the Communication Skills Inventory has plates with one or four images on it. Some plates have one word or words above the images, no words on the plate, only words or questions. These are presented to the deaf adult with a signed prompt or question in which the deaf adult is to rely or select the corresponding image to the prompt/question. The plate architecture became the foundation for this project Skills Inventory section, within the Profile, and was employed via a DVD consisting of video clips.

**Communication Skills Inventory (2011).** This protocol is an unpublished document which was designed for a particular mental health facility (CSI, 2011). This document appears to be more of an example of a sample recommendation report (e.g., summary section) for an assessor.
Assessment Testing Tools

Four formal assessments, that could be found and examined, focusing only on vocabulary were considered because each included a visual presentation to determine the examinees' vocabulary level. Each assessment seemed to be a foundation for the subsequent. The four assessments were: (1) Peabody Picture Vocabulary Test (Dunn & Dunn, 2007); (2) Carolina Picture Vocabulary Test (Layton & Holmes, 1985); (3) American Sign Language – Receptive Skills Test (Enns, Zimmer, Boudreault, Rabu, & Broszeit, 2013); and (4) DGS-Verständnistest (DGS), a German Sign Language Receptive Skills test (Haug, 2011). The following sections describe each of the above listed measuring instruments.

Peabody Picture Vocabulary Test (4th Edition) (PPVT). The PPVT booklet contains a list of vocabulary in the form of (cartoon-like) colored drawings. Each page is roughly 8 ½ by 11 inches with four drawings per page. This booklet encompasses a full-color test easel with a variety of ethnicities, genders, and races with two black lines placing each drawing in a quadrant. Each quadrant is numbered. Each object portrayed is outlined in a black line to clearly distinguish the characteristics of the object. This test is organized for someone to read the word aloud, in spoken English, and for the examinee to point to the appropriate picture matching the spoken word. There are tabbed sections grouped depending on the age range of the examinee. The drawings in the younger age range are duplicated into the next age range and so on. The objective is to assess the individual’s vocabulary acquisition (Dunn & Dunn, 2007; Schirmer, 1994). The Pearson Education, Inc. group has a website for anyone to watch and learn more about the PPVT.
and the receptive vocabulary assessment. Appendix C has a sample illustration of the test.

Though the PPVT was designed as a hearing-based instrument and administered in spoken English, the presentation of the booklet proposed a strategy for arranging and displaying of images for the Skills Inventory section of the Profile. The focal point of the test was hearing and English speaking children and their language development where the requirement for the Profile is to be ASL.

**Carolina Picture Vocabulary Test (CPVT).** The CPVT uses a spiral booklet where the examinee sees a series of plates with four black and white drawings per plate, slightly larger than 8 ½ by 11 inches in size. The administrator of the test sees the word and how to sign the testing word. The examinee points to the image that corresponds with the sign the administrator generated. This test was developed to measure the receptive sign vocabulary of deaf children whose primary language is sign language (Kline & Sapp, 1989, p. 64). White and Tischler (1999) noted that as the test progressed, the vocabulary became more difficult. Appendix D has a sample illustration of this test.

This test also has a booklet which seems to mimic the same structure as the PPVT test. However, this test centered its attention on measuring deaf children's sign vocabulary. The side of the booklet that describes how to sign the words gave the impression of a standardization of the testing procedures. This test was normed for children between 2.5 and 16 years of age. The Skills Inventory section attempts to standardize the signing process and does not attempt to norm the process. Most of the documentation discusses the usage and administering of the CPVT.
**American Sign Language – Receptive Skills Test (ASL-RST).** The ASL-RST, also utilizes a spiral laminated booklet where the examinee sees a series of plates with (cartoon-like) colored drawings four per plate, roughly 8 ½ by 11 inches in size, (see Appendix E). This assessment was adapted from the British Sign Language test *Assessing British Sign Language Development: Receptive Skills Test* (Herman, Holmes, & Woll, 1999). The examiner can use the DVD images or the spiral booklet to answer the questions. The four colored drawings are on a sheet of white paper, each approximately 5 x 7 inches. Each of these is on a sheet of blue paper, laminated. Each of the plates is numbered. The signer presents the question, fade to black, then a plate appears for the examinee to point to which drawing is the one that matches the question asked, fade to black and the cycle is repeated with a different vocabulary word. This test also has the individual drawings on a single laminated 5 x 7 inch card.

As with the previous two texts, the ASL-RST also has a booklet; in addition, it is accompanied by a DVD. When administering this test, the examiner presents the same signing style for each deaf student taking the test. The Skills Inventory section objective is for standardizing the signing style by providing the DVD. However, the objective for the Profile is not for a norming process, though the test is normed for educational purposes. The standardizing in this section is an effort to determine a language baseline.

**DGS-Verständnistest (DGS) – German Sign Language Receptive Skills.**
The DGS test uses a computer-based format for evaluation of receptive skills. This test is administered on a laptop. The software has a split screen. On the examinee's left is a person signing the prompt. On the examinee's right, the examinee will see four images (a
plate) where one image is to be selected. The selection process is via the mouse. The examinee has other command keys to select from: stop, play, forward, and next.

These measuring instruments construct a base for the compilation of the video clips, placed on the DVD. These video clips are to be administered to the deaf examinee as part of the Skills Inventory section within the Profile. The next section describes where the images were found and who the Signer was for the videotaping.

The DGS tests seems to have its foundation from all the tests recently discussed. The design for the Skills Inventory section was not of a software program, but the use of the plates with one or four images per plate. The same signer was used in the DGS test to give an illusion of a form of standardization. The difference between DGS and ASL-RS T is a split screen. The split screen concept would mimic a booklet in front of the examinee, but without the hardcopy version.

Compilation of Images (Pictures and/or Drawings)

The above mentioned tests contained photographic-type pictures or hand drawings; therefore a more generalized term, "images," is employed to refer to pictures or drawings. Images for the DVD vocabulary assessing were located on the Internet and downloaded from flickr™. Only those sites allowing “free for commercial use” were selected for the video clips. Some of the images selected for the video clips were in color and some were in black and white.

Signer for DVD. The Signer selected for the DVD videotaping was a deaf individual with near native-like signing skills. She was born deaf to hearing parents. There are no other members in her family who are deaf. She considers herself to be culturally Deaf, even though she has speaking and lipreading abilities. She was
mainstreamed into the public school systems from kindergarten to 12\textsuperscript{th} grade. Her first communication method was oral, followed by SEE (Seeing Essential English or Signing Exact English), PSE (Pidgin Signed English), then ASL (see Appendix A for descriptions of the signing systems). She began her exposure to ASL around seventh or eighth grade. She has a master's degree in social work and is involved in clinical therapy. The Signer is very familiar with mental health intake procedures, especially those focusing on assessing a deaf client's communication. Her "good working knowledge" of ASL consists of more than just a familiarity of ASL. She has a grasp of various signing styles that range from ASL to MCE (manual coded English), including fingerspelling and gestures. In addition, she has an understanding of ASL linguistic structure, e.g., NMS (non-manual signals). She also aided in the selecting of images and composition of the video clips. The Signer supplied her own clothing for the videotaping, along with her own make-up to accentuate her facial features to afford a visual ease and clarity of her signs, facial expressions and body language.

**Visual/Audio Image Release Form (Insurance and Risk Management).**

The release form, provided by the university, granted permission from the Signer to use her image for the videotaping and making of the DVD. A blank copy of this form can be found in Appendix F.

**Selection of Words for the Skills Inventory**

The majority of the words and images selected for the DVD may be perceived as iconic in nature, from the United States Deaf community’s perspective. With such a diverse Deaf community in the United States, the attempt might not be successful in providing for every different regional community group.
The selection of words ranged from a first grade-level to roughly a fourth grade-level, iconic to abstract, simplistic to complex, and three to roughly eight letters in length. The selected words are of everyday events that the deaf client may be exposed to. Various wh-questions relating to the plates were signed to require more information from the deaf client than a simple yes or no. The subsections below are a representation of how the words and images appeared in the assessment. The signed ASL questions were transcribed according to Baker-Shenk and Cokley's (1980) and Baker-Shenk's (1983) transcription conventions, from the ASL produced by the Signer into an English-like written format, (see Appendix B for details of the Transcription Convention). These transcriptions appear within subsections below, in parentheses, after the word/image.

Another consideration, implemented, was keeping in mind if the deaf client had committed any sexual offenses. A caveat to this consideration was also added to the Profile. A suggestion is for the clinician to review the images before initiating the Skills Inventory section, because some of the images might be in violation of the deaf client’s parole (or probation) terms and condition agreement. The following subsections were developed and compiled for the Skills Inventory section DVD.

**Simple Image Plates.** This category has one image on a plate. The selected three images used are: (1) blue square (SQUARE COLOR WHICH?), (2) six green apples (APPLE GREEN HOW-MANY?), and (3) a butterfly (BUTTERFLY WHICH BIG SMALL WHICH?). The Signer signs a question, as seen in the parentheses, and pointed to the image on the viewer's right.

**Simple Image with Word(s) Plates.** This category has the same design as Simple Image Plates, however, these three images have a corresponding word that
matches the displayed image. The following images selected, are: (1) a small pig (CL:1 (index lf) ANIMAL, WHAT?), (2) eyeglasses (CL:1 (index lf) FOR-FOR++?), and (3) baseball batter up to the plate (CL:1 (index lf) DO-DO++?).

**Simple Four Images Plates.** This category is similar to the Simple Image category, but four images are displayed on each of three separate plates. The first plate has the following four images: a person standing, a person running, a person sitting and a person swimming (CL:1 (index lf) WHO RUNNING WHO?), whereupon the deaf client is to select the image that corresponds with the question. The second plate has the following four images: $1.00 bill, a boat, a chair, and an airplane (WHICH BOAT?). And the third plate has the following four images selected: a deer, a dog, red grapes, and a little boy (WHERE DEER?). The deaf client will repeat the process by selecting the image that responds to the question signed.

**Simple Four Images with Words Plates.** This category is similar to the Simple Image with Word(s) category; however, at the top of the images there is an English written question. The first plate had the following images: three pencils, one rabbit, a walking man, and a living room (HOW MANY PENCIL+++?) with the English question of "how many pencils are there?" The second plate has the following images: a mirror, an LAPD female officer, pairs of male shoes, and a chicken (SHOES WHICH BOY GIRL WHICH?) with the English question of "are the shoes boy's or girl's?" The final plate has the following images: ski jumper, jockey, soccer player, and a man reading (WHO SKI JUMP?) with the English question of "which one is the skier jumping?"

**Words Only Plates.** Instead of an image or images, simple words are displayed. The question signed by the Signer is “what does it say?” (SAY?). There are only three of
these images displayed on a separate plate. The words selected are: soap, clock, and service.

**Asking a Question.** This is the last category. The Signer signs, “please read and answer the question” (CL:1 (index-viewer) YOU READ CL:1 (index-line) ANSWER YOURSELF, PLEASE?). There are four plates containing the following English questions: (1) what time is it now? (2) what time do you wake up in the morning? (3) what day of the week is it? and (4) have you taken a bus before?

**Video Equipment and Recording Location**

For ease of videotaping, the iPad® with iMovie®, and Camera Roll applications was employed to produce the video clips. The living room of the author became the video studio area. A navy blue flat sheet was hung from curtain rods to cover the white wall, as a back drop. Another navy blue sheet covered nearby furniture. A tripod and a special iPad® mount was used to hold the iPad® when videotaping was taking place. iMovie® does allow for videotaping; however, when making the project, the video clips are only accessed locally. This means that if any other project is created it could not use that video clip. However, any and all projects made in iMovie® can see all the video clips made via the Camera Roll. It was decided to allow the video clips to be global to all iMovie® projects.

**Production of DVD**

Each video clip was edited to have the selected image and the signed question to run together, in a split mode or split screen presentation. The split screen presentation was assembled so the deaf client, when facing the display, sees the Signer on his or her left with the plate on the right. This simulates the reading process of left to right. Apple
has embedded, into iMovie®, the Ken Burns effect when dealing with images. This effect had to be removed because it panned and zoomed the still image. Editing of each plate, which contained either one image or four, was performed to remove this action to keep the images in a specific location. The images were also edited to reduce the size and to change the background color to white. Camera Roll placement of the Signer appeared differently in iMovie®. iMovie® zoomed out and picked up the surrounding furniture. In iMovie®, the video clip required a zoom in edit to place the Signer a little to the left with a close up of above the waist to several inches overhead.

The last editing feature was the timing. Timing was added to the beginning and ending of the video clip to give the deaf client some time to watch the Signer then move his or her eyes to the plate. Lastly, the videos were synched to the author's desktop from iPad®. From there, the files were written (burnt) to a DVD. Roxio® software wrote the files onto the DVD, formatted to be administered from a computer and not a DVD player.
Chapter 4: Discussion

Several communication assessment profiles were found and reviewed from various fields, such as rehabilitation, psychology, and education. Since there is not one universal or well-known communication assessment for, a compilation of various others is necessary. However, this project was searching for a specific subject matter type, specifically an assessment on communication modalities and functional language skills. Each assessment located, contained some of the necessary elements for this project. The six assessments found were: Communication Skills Inventory (CSI, 2011), Communication Skills Inventory (Williams, 2009), Communication Profile (Office of Deaf Services, 2008), Assessing Workplace Communication Skills with Traditionally Underserved Persons who are Deaf (Long, 1996), Employment Testing for Handicapped Persons (Nester, 1984), and A Guide for the Psychological Evaluation of Deaf and Severely Hard of Hearing Adults (Vernon, et al., 1967).

Nester (1984) discusses and provides examples of various measuring instruments for rehabilitative purposes. The article is divided into sections depending on the type of handicap being reviewed. The section on "testing hearing impaired and deaf persons" points out the various factors that influence the deaf individual's testing abilities (Nester, 1984, p. 424). For example, factors include reading abilities, using of interpreters, and modifying the written test instructions. Many of the instruments mentioned are hearing-based with verbal components. There is no specific protocol associated here, only an article reviewing what instruments are on the market and available to rehabilitative and psychology counselors. Thus, it did not meet the requirements for the Profile and was not considered.
A Guide for the Psychological Evaluation of Deaf and Severely Hard of Hearing Adults instrument (Vernon, et al., 1967) reviewed evaluation instruments for intelligence, personality, and education. Unit 2 of this guide presented the communication aspects of sign language (i.e., ASL) and Deaf culture. The authors' objective was to educate the professionals who may provide services to deaf adults. Examples of the type of professionals mentioned are: rehabilitation counselors, vocational evaluators, psychologists, social workers, audiologists, mental health workers, and speech therapists. The data collection areas were reviewed to determine, from a psychological perspective, would there be any other types of questions that needed to be asked. The authors describe the various psychological, personality, and educational measuring instruments which best fit a deaf individual. Most of the discussions were reiterated in the assessments discussed below. Therefore, the information from this assessment was not utilized in the Profile.

The remaining four assessments were considered for assembling of the Profile. The Communication Skills Inventory (CSI, 2011) and Communication Skills Inventory (Williams, 2009) are unpublished assessments that collect a small amount of historical and background information on the deaf client. These two assessments mainly target the functional language skills in the skills inventory section, the deaf individual's skills and a sample report write up. The skills inventory (plates) section is in printed (hardcopy) format and displays a pattern to the various types of language and linguistic categories for assessing functional language. The section may be performed by a different signing individual, e.g., signing clinician, sign language interpreter, and/or [certified] deaf interpreter; however, the process is not standardized. The objective of the current project
is to standardize the Skills Inventory section by utilizing the same signing style for each examinee of the assessment.

The Assessing Workplace Communication Skills with Traditionally Underserved Persons who are Deaf assessment (Long, 1996) is for rehabilitation counselors to determine language and abilities to work. This assessment does collect history and background information, although, the main objective is to look for a work pattern and conclude a type of working environment that would best fit the deaf adult. Long (1996) provides the assessor with an introduction by describing the deaf population, traditional approaches and new approaches to assessing the deaf individual. The introduction section assisted in clarifying for an assessor the objective and goal behind a communication assessment profile. Then each section within the assessment has an introduction and information about the requirements of the section. The concluding section is sparse when dealing with how to organize the report.

The Communication Profile (Office of Deaf Services, 2008), which was based on Long's (1996) workplace assessment, does focus more on history and background information of the deaf client. It does mention skills inventory but not to an extent to provide examples or detailed linguistic characteristics for observations. In addition, the introduction and reporting sections are thin. An introduction, like Long's (1996), would have been helpful to clarify the purpose of the assessment, such as, what is a communication assessment, what are the goals, what are the objectives, and how does the assessor compose the report.

The next gap to fill for the Profile was a data collection method. This method is to identify the linguistic skills in the deaf adult and then evaluate those skills at an age
appropriate level. Each of the other assessments constituted foundations for what questions or prompts were needed for the Profile part of the project. Long and Alvares (1995) feel the emphasis is best placed on the functional communication skills and less on the mode of communication. Their term, mode of communication, is synonymous to communication modality which is used throughout this project. Functional communication refers to the involvement of others, e.g., family members, peers, and work supervisor. Long and Alvares (1995) feel the mode of communication is irrelevant and more emphasis should be placed upon the functional communication skills. However, the mode of communication is very relevant. It is important to know and understand how the deaf adult communicates with others and with what modality (e.g., sign language, speech, pantomime, etc.). In addition, the use of children's assessments can complicate the process because the children-composed assessments may not consider the function of the adult in various settings (Moeller, 1988).

A review of children's assessment tests designed with a visual aspect of measuring was done. The reason was to establish availability of other measuring instruments and to determine if any of them could be adapted for adult usage. A communication scale that investigates the presymbolic stages of development was fashioned to record children's first words, gestures, body movements and vocalizations. This was the Communication Complexity Scale (CCS), developed by Brady, et al. (2012) for documenting deaf children's early forms of language development. The developers of the CCS asked nationally recognized experts in the field of early communication development to review the scale. Each of these experts had more than 10 years in conducting clinical research of early communication development (Brady, et al., 2012).
The scale was modified by the current author to correlate with deaf adults and added to the Profile. The modified CCS provides another instrument for gathering communication data to lend support to the decision making process of the deaf client's communication modality. This is designed to guide the communication specialist (CS) or sign language interpreter (SLI) with observations and documenting language and non-manual signals (NMS) of the deaf client. NMS consist of facial expressions, head and body movements which are a function of grammatical markers found in ASL (Bridges & Metzger, 1996). This new scale has not been tested to determine its acceptability as a tool for a deaf adult with language dysfluency.

The CCS can be found in the Profile under the Client Environment section, Part III. In this section, the CCS describes each category and provides examples of what the specifications are. There are linguistic examples and explanations to assist the CS or SLI in his or her observations of the deaf client. The CCS was designed to provide another tool in discovering the communication modality of the deaf individual.

Another gap to fill, was to examine visual measuring instruments in how they are presented, both in construction and implementation. Knowing full well these instruments are children-based, the following instruments were reviewed: Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 2007); Carolina Picture Vocabulary Test (CPVT) (Layton & Holmes, 1985), American Sign Language–Receptive Skills Test (ASL-RST) (Enns, Zimmer, Boudreault, Rabu, & Broszeit, 2013), and DGS-Verständnistest (DGS) (Haug, 2006; Haug, 2011). Several additional visual measuring instruments were mentioned in the literature including the Total Communication Vocabulary Test (TCVT) (Schere, 1981), Full-Range Picture Vocabulary Test (FRPVT)
(Ammons & Ammons, 1948), and the Van Alstyne Picture Vocabulary Test (Van Alstyne, 1961). These instruments, however, could not be found for evaluation. The TCVT was described by White and Tischler (1999) as an outdated measuring instrument. The FRPVT instrument is based on spoken language assessing. And the Van Alstyne Picture Vocabulary Test has been administered to Mexican-American school age children, who have non-English speaking family members, where it measured intelligence of what the authors' described as culturally disadvantaged children (Karabinus & Hurt, 1969). This test is administered in spoken English.

The current author was able to see and review the PPVT and CPVT instruments and how they were administered. The PPVT is based on the spoken English language and not on MCE (Manually Coded English) or ASL; therefore, there are no norms of deaf individuals provided (Schirmer, 1994; White & Tischler, 1999). The PPVT contains a booklet of plates, containing four images per plate. The plate format was of great interest for construction of the Skills Inventory section of the Profile. However, a booklet format would not lend itself to a standardized language presentation. The PPVT is highly suspect if administered to deaf examinees (Long & Alvares, 1995). There is a YouTube video of the administration of this test with a young child (see Peabody Picture Vocabulary Test Administration https://www.youtube.com/watch?v=92gTmetZEHg [2013, October 9]).

The CPVT booklet demonstrates how the administrator of the test produces the signs for the words of the test. This can be considered an attempt to standardize the signing format for this testing instrument. Some of the signs were produced more in a CASE (Conceptually Accurate Signed English) or an MCE (Manually Coded English)
form (Kline & Sapp, 1989). Signs such as: VITAMIN, FLUID, and MAYONNAISE demonstrated initialized signs which present more in the pedagogical sign system of visual English production (see Appendix B for transcription of ASL sign). Initialized signs are changed ASL handshapes replaced with the manual alphabet handshapes corresponding to the first letter of the English word (Baker-Shenk & Cokely, 1980). Some test signs seem to represent different English words. When this was implemented, the different English words were not on the same plate. Examples are: snail/caterpillar, witch/revenge and house/castle. One particular sign, BALANCE, was used in a general sense but depending on the object, this sign can have different orientations of the hand(s) and/or handshapes. For example, the BALANCE sign is different when someone is balancing himself or herself on the rocks vs. balancing of a checkbook or considering the purchase of a home (weighing the options). This is also seen with the sign AIM. This sign could reference a goal or to point to a target. The sign for PEACH resembled the sign for EXPERIENCE and could cause some confusion for the examinee (Layton & Holmes, 1985; Schirmer, 1994). Again, this test leads to a more standardized format; however, the signing system of MCE is not the favored selection of language presentation desired.

The ASL-RST (Enns, Zimmer, Boudreault, Rabu, & Broszeit, 2013) was based on British Sign Language Receptive Skills Test (Herman, Holmes, Woll, 1999). This test recorded a signer performing in ASL instead of in an MCE or CASE style. The ASL-RST accompanying DVD attempts to make the assessment a standardized form, too. The question is signed with a fade to black, then the plate displays for a short period of time, ending with a fade to black. The fade to black action gives the illusion of testing memory
skills, to determine how long the examinee could hold that question before the choices display. The Profile for this project was not designed for testing memory and opted to present the question and the plate together with no black interlude between them, i.e., fade to black. However, the design is more in line with the goal to have a standardization of the signing style to evaluate a language baseline of the deaf adult. A short video clip of the ASL-RST test can be seen at: http://www.signlang-assessment.info/index.php/american-sign-language-receptive-skills-test.html

The British Sign Language Receptive Skills Test (BSL-RST) (Herman, Holmes, Woll, 1999) uses a DVD video of 40 items organized in order of difficulty. A signer presents the question with a fade to black, providing time for the examinee (a deaf child) to respond by selecting the image, on a plate in a booklet, which corresponds to the question. The current author does not know the difference between BSL and Signed British English (a manually coded form of British English). This test utilizes a booklet and the Profile is attempting to not employ the use of a booklet. A short video clip of the BSL-RST test can be seen at: http://www.signlang-assessment.info/index.php/british-sign-language-receptive-skills-test.html

DGS-Verständnistest (DGS), a German Sign Language Receptive Skills test, was based on the BSL-RST (Herman, Holmes, Woll, 1999) test as a foundation for Germany's assessment of deaf children learning German Sign Language (Haug, 2006; Haug, 2008; Haug 2011). This test was reviewed for its formatting style of a computer-based test displaying in a split screen mode. The examinee, facing the computer screen, sees the signer on the examinee's left and a series of four images (a plate) on the right. The signer signs a question, then points in the direction of the examinee's right as to which image, on
the plate, corresponds with the recently signed question. One image is correct, and the three others are foils. The interactive test allows the examinee to use the mouse to control the progression through the test by either of the following commands: stop, play, skip, and continue. The examinee takes the mouse and clicks on the image that answers the question. This eliminates an examiner signing questions and the administrator noting the examinee’s answers as was found in the PCVT, CVPT, and ASL-RST tests. The examinee could be left alone in a room while taking this test. The DGS video format would require more time and resources to design and code this type of assessing. The author of this project is not familiar with DGS, or the pedagogical German sign system, nor does the author know of anyone who can recognize the difference between the two signing forms. A short video clip can be seen at: http://www.signlang-assessment.info/index.php/german-sign-language-receptive-skills-test.html

The DGS test with a split screen – Signer and plate – style formed a foundation for the making of the Skills Inventory section of the Profile. The Apple® product of iMovie® application furnished the split screen effects. The Signer, when the examinee is facing the display, appears on the left hand side of the screen (as seen in Appendix G) while the plate shows on the examinee's right. English style of reading is from left-to-right, as can be seen in the DGS video design.

An iPad® using the Camera Roll APP (application) equipment was utilized for the videotaping. The videotaping was done in the current author's home with a dark blue curtain as a backdrop. This color was selected to contract the skin color of the Signer. Test video shots were done for each shirt color the Signer brought to determine which shirt color would work well visually with the backdrop and her skin color. Images
downloaded from *flickr*™ to a PC Desktop were edited to meet the needs of the questions being asked. The iPad® was synched with the Desktop to download the images onto the iPad® into the Photo APP. iMovie® was utilized to edit the video clip and/or the images.

As for the images, the Communication Skills Inventory (Williams, 2009), a hardcopy paper packet, was used as a foundation for the Skills Inventory section. A pattern suggested an order of simple to complex with and without English word(s) with six categories presenting. For this project, images and words were not duplicated for each of the categories: Simple Image Plates, Simple Image with Word(s) Plates, Simple Four Images Plates, Simple Four Images with Words Plates, Words Only Plates, and Asking a Question. The current author felt selecting images (pictures or drawings) from the Internet would prove efficient and quick in the compilation for the video clips. The construct PPVT, CPVT, ASL-RST, DGS, and the Communication Skills Inventory (CSI, 2011; Williams, 2009) were adopted for the concepts of images and plate organization. The Communication Skills Inventory (Williams, 2009) groupings of images and categories are reflected in this Skills Inventory section.

Many of the images were selected to meet a more U.S. popular-type culture. Being aware of anything that might have a sexual connotation in it, was not selected. Stereotypes to some degree were incorporated due to the limited amount of “free for commercial use” availability. For example, in some ethnic groups the males have long hair. If a young man with long hair appeared in the test, he might be construed as a female due to the possibility of the two-dimensional format, foreground, background, etc. Another example is, several images of young a child was found with short black hair that gave the impression the child was a boy when in fact the title of the image stated “Asian
Girl.” No religious images were selected for testing. At a later time, these variations may be added to the DVD if so desired.

Several of the images downloaded needed to be edited to remove some background or foreground objects. This facilitated the question being asked and to reduce uncertainty, such as, an image has two trees in the foreground, three trees in the background and one brick building with a question of “How many do you see?” This might cause confusion as to what the deaf client is counting, trees in the foreground, trees in the background and/or the building. Another example was of a Panama hat which had other objects in the background. These objects could be easily counted. Also, the deaf client might not see the foreground object very clearly and might look to the background objects; therefore, depending on what the question was asking, editing was done to reduce any doubt as to what was being asked.

As both the ASL-RST and DGS assessment did, a Signer was selected for the Skills Inventory section who understands ASL, Deaf culture, Deaf community and works with deaf adults who have language dysfluency. Deaf individuals who interact with the people and the world via a visual perspective have a different thought world and approach compared to a hearing individual who interacts more on an auditory perspective. This is mainly due to not receiving auditory information. So, the Signer found to perform the videotaping was born deaf, with hearing parents. She considers herself to be culturally Deaf, even though she has speaking and lipreading abilities. A culturally Deaf person means he or she is a member of the Deaf community and employs sign language as a preferred language of communication. Deaf with a capital "D" indicates the individual considers himself or herself both culturally Deaf and a member of
the Deaf community (Bridges & Metzger, 1996), “a particular group of people who share a language and a culture” (Padden & Humphries, 1988, p. 2). It also represents a self-identification into a socio-cultural linguistic community. She was mainstreamed from kindergarten to 12th grade. Her first communication modality was oral, followed by SEE, PSE, then ASL. She learned sign language around seven or eight years of age. Though her first language was not ASL, she has experience in the language spectrum and of the various communication modalities. There are no other members in her family who are deaf. The Signer has a master’s degree in social work and is a licensed clinical social worker who works with and has been exposed to deaf adults with language dysfluency. The Signer, also, volunteered her time for the videotaping.

A computer is needed to run the Skills Inventory section DVD. If the clinician does not have one, it will defeat the standardization attempt; thus, the Skills Inventory section of the Profile does not have a booklet. There were no duplications within each of the categories to provide a variety of examples to see; nonetheless, if this DVD is reproduced, it is highly recommended in some categories to have duplications because the selection will be presented in a different format. For example, an image showing only a blue square could be duplicated by using the category of Words Only. This provides the SLI or CS with information on reading abilities. Another example could be the image of a skier having it duplicated and mixed in with the Simple Four Images with no words or with Words, asking “what is the skier doing?” The deaf client may have understanding of the language in one communication modality, but not in another, and the duplication process can reveal that.
Each video was edited to have the image and the video clip run together on a split screen with the Signer on the examinee's left and the plate on the examinee's right. The Ken Burns effect was removed from the image (plate). This effect is a type of panning and/or zooming that takes place when video production uses a still photograph or image. The images were changed to make them smaller in area and with a black background or a white background. The intention is to make viewing the images easy on the eyes. The iMovie® video clips were sent via email to the current author, then downloaded to a file directory. From there, the files were downloaded (burnt) onto a DVD using Roxio®.

Deaf-blind individuals were not included in this project due to the complexity of a dual sensory loss, vision and hearing, which requires a completely different approach to not only gathering the information but also in the communication assessment realm. Therefore, deaf-blind individuals were not considered in this project and Profile.

If the deaf individual (examinee) was raised in a language environment of “home signs,” then this Skills Inventory section may have to be approached differently, such as not using the DVD or obtaining a Deaf Interpreter (DI) or a Certified Deaf Interpreter (CDI) in conjunction with an SLI. In addition, this project did not look into the aspect of having a DI or a CDI, who is qualified, present to assist with the administration of the Skills Inventory section. This project only analyzes deaf adults who are 18 years of age or older and are no longer in the K-12 educational setting. It was not designed to assess deaf individuals who are under 18 years of age.

Sign selections, for the production of the DVD, were employed to present those used by the majority, a more standard usage, in the deaf population. There may be signs which are considered a dialect for a given region of the deaf population within the United
States. Only a cursory linguistic review of the research was done to ascertain if the sign was the more popular one or not. This project was also not intended to teach or guide a clinician in or about Deaf culture. For the clinician to receive such information will require another means of obtaining the cultural knowledge.

The Profile is needed because of the belief system that many clinicians have towards deaf individuals with language dysfluency. A common belief of the medical-pathological perspective is, fix it and cure it; this perspective is often derived from a scientific viewpoint which collects data and evaluates the cause and effect of deafness. The researcher of this viewpoint takes on the characteristic of an outsider looking in. The outsider is looking for patterns, behaviors and experiences. The scientific viewpoint separates the knower (the scientist/researcher) from the known (the observed). This places the deaf individual into a cookie cutter mold. It is evident in the assessment and evaluation measuring instruments reviewed that these tools are geared more towards the language and intelligence of an individual. The basis of these instruments is founded from a hearing (auditory) perspective and not one from a deaf (visual) perspective; thus, an attempt is made to compare deaf individuals to hearing-based standards that cannot be attained. Deaf people are not hearing people with a hearing loss, nor are they broken. In recent research studies, the researchers have stated the scientific method was not effective when measuring deaf individuals' language and/or intelligence (Baker-Shenk & Cokely, 1980; Landsberger, Sajid, Schmelkin, Diaz, & Weiler, 2013). The scientific method actually interferes with the clinician-patient relationship (Brice, Leigh, Sheridan & Smith, 2013; Scheier, 2009).
Today, researchers are following a more inductive approach to research (Glickman, 2009; Glickman, 2013b; Glickman & Pollard, 2013). The research is adopting a more humanistic look at the deaf person with language dysfluency and how to assess and evaluate his or her language, knowledge, and fund of information (FOI). The interpretivist looks at the uniqueness of the individual and asks what makes this person different. For deaf people, it is their language. They are a socio-cultural linguistic minority, a difference, not a disability. The federal and state governments, even state agencies, created laws and mandates obligating clinicians and mental health facilities to recognize deaf people as a cultural and linguistic minority, where they cannot be denied access to mental health care. California has compiled resources for facilities to generate a plan and policy to remove disparities in accessing mental health services and reduce lawsuits ("California Department," 2010). The filed lawsuits of language dysfluent deaf defendants, Jesse and Maryellen, demonstrated the belief these deaf defendants were successfully understanding the courts' conditions, when in reality they were not (LaVigne & Vernon, 2003). These deaf defendants had language skills that were below average which comprised a mixture of communication modalities. Their reading grade-level categorized them as functionally illiterate. At least two stipulations seem to go unchecked for the clinicians: English, in many cases, is not the primary or preferred mode of communication for a deaf individual and the FOI gap may be very different from that of a hearing person. There have been attempts to standardize a form of assessing deaf children and adults; but it does have a belief the deaf child of hearing parents have been successfully exposed to a language from an early age. The ambition of this Profile is to bring awareness of deaf people's communication and how it differs from hearing people's.
A measurement search of assessments and evaluations with specific attention
given to analyzing deaf clients, was conducted, resulting in roughly 37 instruments
labeled to be administered to deaf clients whether they be children, adolescents and/or
adults. However, these instruments did not meet the requirements for the Profile which
are to look at the assessment for determining a communication modality. A major
element in this assessment is the using ASL as the standard language modality in the
skills inventory section. Only the instruments relating to the design of the Profile are
mentioned here and only used for research in the foundational designing of the Skills
Inventory section. This project does not suggest nor endorse any of those assessments,
evaluations, or measuring instruments provided here as best suited to administer to deaf
clients. Given the deficiencies in the evaluated assessments, this project seeks to fill a
gap in these tools. The project has produced a beginning step to standardizing of the
Skills Inventory section by videotaping a deaf signer performing the skill inventory
prompts and/or questions.

The Profile and Skills Inventory section is not a “one-size-fits-all.” The deaf
community has not received a standardized education, let alone a standardized form of a
sign language. When measuring the deaf individuals' intelligence or their ASL
proficiency, it may require some adjustments to the Profile to meet the communication
modality of these deaf individuals' needs. Further, the design of this Profile and the CCS
have not yet been put through a pilot study or publicized for general usage.
Chapter 5: Conclusion

Communication assessments used in the mental health field are found in the psychological, educational, speech language pathological, and rehabilitative fields. Each of these fields focus on the effects of language dysfluency on cognitive, academic, language, and social development, including employment and communication disorders. These fields center on the individuals' communication disorder and how it affects aspects of their life; they do not furnish a comprehensive view of the deaf adult's functional language skills. Missing from these assessments is a communication perspective. The objective of this project is to determine the communication modality the deaf adult uses and/or prefers. Communication accommodation theory (CAT) is used with an emphasis on developing convergence between the mental health providers and Deaf community in order to improve mental health care access through a culturally and linguistically affirmative approach.

Other assessments, evaluations, and measuring instruments are hearing-based being administered by clinicians who may not be trained in how to adapt the instrument to their deaf clients. When the need arose for a communication assessment instrument, the clinicians would compile a protocol in an attempt to meet their needs. The rehabilitative protocol that looks into the deaf individual's functional language skill became the framework for the Communication Profile (Office of Deaf Services, 2008). The two assessments, Communication Skills Inventory (CSI, 2011; Williams, 2009), were created to meet the needs to assess the functional language skills of deaf clients. These protocols are not widely known or publicized for easy retrieval, either by downloading the protocol or placing an order for a copy. They each have strengths and
weaknesses, where the strengths were extracted and applied to the Profile. What one protocol lacked, another made up for.

In addition, visual measuring instruments (i.e., PPVT, CPVT, ASL-RST, DGS, and Communication Skills Inventory [Williams, 2009]) were also reviewed for visualizing a design to standardize the Skills Inventory section. As did the above mentioned protocols, these instruments seem to display an iterative development where each subsequent instrument was modified to improve the approach and administration of it. All, but one, of the visual instruments are designed for children, so there is a need for the visual information to be adult-like, from the environmental settings that are linked with adults.

The Profile was produced in this project for two reasons. One, to provide a coalesced protocol with procedures that are Deaf-centric, along with, an attempt to standardize the signing skills section. The Profile has been adapted from various other assessments to accommodate the needs of the clinicians when assessing their deaf clients.

The second reason for making the Profile is for wide availability for those unaware clinicians who have deaf adult clients and need a communication assessment protocol. This Profile also has an added Communication Complexity Scale to assist the Communication Specialist (CS) and/or the Sign Language Interpreter (SLI) who then observes the linguistic reactions given by the deaf client. The SLI or CS will then record observations to guide him or her when writing the report. The most important aspect of a communication assessment is to understand the objectives (i.e., the introduction) and then how to generate an objective perspective from the observations noted (i.e., the recommendation report). The introduction section explains the objective of the Profile,
the makeup of the Deaf community, and the deaf individual's interactions with the hearing community or with other Deaf members. Finally, the closing section discusses the importance of writing a recommendation report. When first time users of a communication assessment or of a particular protocol are tasked to perform an assessment, the introduction and recommendation report are essential sections.

One limitation of the Profile and CCS are that they have not been tested. In determining the effectiveness of the Profile and the CCS, it would be useful to contact several Department of Mental Health (DMH) agencies. I would start a discussion of the possibility of having the Profile uploaded onto their websites and making it available for clinicians to download. I would follow up with a training session to acclimate the clinicians in the use of the Profile. I would encourage the deaf clinicians to also review the Profile not only for comments and feedback, but also to employ it. Lastly, I would contact other known (deaf and hearing) clinicians, working with deaf adults with language dysfluency, for their feedback.

The Profile and CCS would require an adaptation for deaf/blind individuals. A deaf/blind individual has a dual sensory loss – vision and hearing – depending on which sensory system was affected first will depend upon the assessing approach, and more. This minority group within the Deaf community is not contained by the scope of this project. Those interested in continuing this Profile should investigate the design of a specialized protocol for deaf/blind adults.

The Profile brings up the subject but does not discuss the using or implementing of a (certified) deaf interpreter as an alternative resource during the communication assessment process. Those interested in modifying the Profile should think to also add a
section to the Profile discussing the importance and use of a DI or CDI when assessing
deaf adults with language dysfluency.

The Profile comes with a DVD, but due to the time constraints, I was limited in
the amount of video clips I could produce. A variation of subject matter is needed by
developing more on meeting the deaf adult's environment and communication demands,
such as: work, living, and social needs. The Profile can be uploaded onto a website or
sent via email as a PDF file for easy access. Instead of the storage media (DVD) of the
video clips, a [secure] website location may be more economical and facilitate immediate
access. This eliminates the expense of purchasing materials and mailing packages.
Instead, an online [secure] database holding the six sections (Simple Image Plates,
Simple Image with Word(s) Plates, Simple Four Images Plates, Simple Four Images with
Words Plates, Words Only Plates, and Asking a Question) would allow clinicians to have
quick access to the testing video files. Clinicians could become members and from there,
retrieve the necessary files for their communication assessment process. Examples of
online routes could be YouTube or Vimeo format placing the files in an unlisted or
private area that may or may not require a password for access. Uploading to YouTube
and/or Vimeo might be a better option in the future when a clinician asks for another type
of plate, particularly if quick turn-around time is needed. It is not suggested to use the
public listing for these plates unless the Signer has given permission to have the plates
publicly displayed. These locations may be limited in space and require a monthly fee to
upgrade to more disk space. A possibility to consider is charging a service fee to
clinicians for access to the video clips.
Challenges encountered were finding a deaf signer and then scheduling the time to discuss the videotaping and the linguistic analysis of how to sign the concepts related to the images selected for the plates. The plan was to reduce any regional signs and dialects. For the next group who might take up either improving or redesigning the Profile, a team of signers of different ethnicities and from various regions across the United States could be incorporated in the videotaping. Also an ASL linguistic specialist, specifically one who specializes in language dysfluency, should be consulted on the selected signing delivery for the video clips. The individuals working on the videotaping provided pro bono services. I would consider locating a funding source to financially reimburse for the production of the videotaping and any other expenses incurred.

Deaf children of hearing parents who could not make themselves understood by their family members are four times as likely to be affected by mental health disorders (Fellinger, Holzinger, Laucht, & Goldberg, 2009). These deaf children become deaf adults who present to clinicians and can be misdiagnosed due to misconceived assumptions about deaf individuals (e.g., lipreading abilities, comprehending written English, believing English is first language acquired, and reading grade-level for deaf adults is the same as for hearing adults). These assumptions (i.e., a form of a barrier) place the clinician and deaf client in a divergent style of communicating according to the CAT. The unaware clinician does not know how to converge, using the communication modalities similar to the deaf individual's. A convergence style is for the clinician to become aware by understanding the terminology used in the field of deafness as well as having tools that are more Deaf-centric, thus, offering a more culturally affirmative perspective. One particular tool is this Communication Assessment Profile with its Skills
Inventory section. This tool is a guide for the communication specialist (CS), sign language interpreter (SLI), and/or the clinician to enhance their awareness of the type of data needed to assess deaf adults with language dysfluency for a convergence communication style. Once the communication modality is established, the evaluations, diagnoses and treatments can be geared culturally, linguistically, and socially towards the deaf individual, in hopes that the deaf client's access to mental health care and overall health care are improved.
References


CSI. (2011). Communication Skills Inventory. Deaf Services Program, South Carolina Department of Mental Health.


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Williams, R. (2009). *Communication skills inventory*. Unpublished manuscript, South Carolina Department of Mental Health, Columbia, SC.


Footnotes

1 Practitioner(s) is an individual involved in delivering social services to deaf individuals. This is a generalized term, used throughout this research, to encompass a wide variety of professions, e.g., medical doctors (ENTs, PCP), psychiatrists, psychologists, social workers, audiologists, sign language interpreters, directors of organizations/agencies, vocational rehabilitation counselors, learning disabilities specialists, case management workers, K-12 teachers/aids/tutors, post-secondary educators, and more.

2 Clinician(s) is an individual involved in delivering mental health services to deaf individuals. This individual can be either hearing or deaf, and/or a signing or non-signing person. This term is used generically to encompass such professions, but not limited to: psychotherapist, marriage-family therapist (MFT), psychiatrist, and clinician social worker.
Appendix A: Pedagogical Signing System

There are many different forms of pedagogical signing systems, also known as manually coded English (MCE) (Baker-Shenk & Cokely, 1980). These systems/codes were designed to replicate and represent English morphemes, syntax, semantics and phonemes.

Examples of these various systems that deaf individual use to communicate, are presented here.

<table>
<thead>
<tr>
<th>Pedagogical Signing System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.E.E. I</td>
<td>Seeing Essential English, based on root signs to which other signs were affixed (Anthony, 1974).</td>
</tr>
<tr>
<td>S.E.E. II</td>
<td>Signing Exact English, the foundation is American Sign Language (ASL) with modification of the handshape by taking the first letter of the word corresponding with the English word (Gustason, Pfetzing, &amp; Zawalkow, 1972).</td>
</tr>
<tr>
<td>L.O.V.E</td>
<td>Linguistics of Visual English is a visual representation of morphemes with as much ASL employed. This representation was developed by Dennis Wampler in 1972 (Nomeland &amp; Nomeland, 2011).</td>
</tr>
<tr>
<td>Cued Speech</td>
<td>A method of teaching a spoken language through hand positions near the mouth to represent the invisible English sounds or phonemes.</td>
</tr>
<tr>
<td>Signed English</td>
<td>Visible production of English with its affixes and some semantic information.</td>
</tr>
<tr>
<td>Rochester Method or Visible English</td>
<td>Every word spoken is fully fingerspelled.</td>
</tr>
<tr>
<td>P.S.E.</td>
<td>Pidgin Signed English is a combination of ASL and English.</td>
</tr>
<tr>
<td>M.S.S.</td>
<td>Morphemic Sign System mainly used in Amarillo, Texas. The root word is signed along with an affix, e.g., re-, un-, -est, -ing, -ity, -ness, etc. MSS is literally signing all the morphemic parts of an English word.</td>
</tr>
</tbody>
</table>
Appendix B: Transcription Convention

A. Manual Behaviors

1. An English gloss for an ASL sign is written in capital letters (e.g. CURIOUS).

2. When more than one English word is needed to gloss an ASL sign, the English words are separated by a hyphen (e.g. FROM-NOW-ON).

3. When an English word is fingerspelled, the letters in the word are separated by a hyphen (e.g. J-O-H-N).

4. When the sign is a fingerspelled loan sign (Battison 1978), the gloss is preceded by the symbol '#' (e.g. #WHAT).

5. Double quotes around a gloss indicate a conventional "gesture" (e.g. "WHAT").

6. The symbol '(2h)' means the sign/gesture is made with 'two hands' although it could be made with only one (e.g. (2h)"WHAT").

7. When two glosses are joined by the symbol ' − ', it indicates a compound sign (e.g. TRUE WORK).

8. When two glosses are joined by the symbol ' ∪ ', it indicates a contraction (e.g. NOT (2h)HERE).

9. An asterisk after a gloss indicates the sign is stressed (e.g. BORED*).

10. A plus sign after a gloss indicates the sign is repeated. The number of plus signs indicates the number of repetitions (e.g. DIFFERENT+++ indicates the sign is repeated three times; the sign illustrated here is also made in an 'arc').

11. The symbol 'alt.' means the hands move in an 'alternating' manner (e.g. (2h)alt.COMPLAIN).

(12) Double quotes around a word(s) in lower case which is written after a gloss indicate an inflection of the sign (e.g. BECOME-SICK"regularly").

(13) The symbol 'rt' stands for 'right'; 'lf' for 'left'; and 'cntr' for 'center'. When a sign is made 'in' or 'toward' a particular location in space, that place or direction is indicated after the gloss, as in NOTICE-TO-rt.

(14) When a symbol like 'rt' is written before a gloss, it indicates the location where the sign began (e.g. rt-TEASE-me"over time"). (These symbols refer to the signer's perspective - e.g. 'rt' means to the signer's right.)

(15) Since spatial locations represent nominal arguments, when the identity of the referent is known, the directions 'rt', 'lf', etc. can be replaced with the appropriate names - e.g. if the location to the signer's left is 'Pat', then you-FORCE-If can be written as you-FORCE-pat. (For such verbs, a location approximating the front of the addressee's body means 'you'; near the front of the signer's body is 'me'.)

(16) Classifiers are transcribed with the symbol 'CL' written after the letter or number which indicates the handshape of the classifier (e.g. C-CL; 2-CL). Sometimes an arrow is used to indicate the orientation of the palm in that classifier (e.g. B↑-CL means the palm of the B handshape is facing upward).

(17) Single quotes around a lower case word(s) is used to help describe the meaning of a particular classifier in the context of a particular sentence (e.g. 2-CL'two people come to me from rt').

(18) The symbol 't', written as a subscript, indicates that both hands in the classifier move or act "together" to describe the referent - i.e. both hands have equal value and there is no "dominant" hand (e.g. C,CL-upward"sweep in rows" as opposed to (2h)C-CL-upward"sweep in rows").

(19) Signs made with the non-dominant hand are written on a line below the normal line. If one hand makes a sign and then 'holds' it in place while the other hand makes another sign, the period of 'holding' is indicated with a horizontal arrow, as in:

\[
\text{NOT-MUCH}
5:-CL\rightarrow
\]

Appendix C: Sample PPVT-4 Plate

Appendix D: Sample CPVT How to Sign the Word

Appendix E: Sample ASL-RST Plate

Appendix F: Visual/Audio Image Release Form

Visual/Audio Image Release Form

Project Name: __________________________________________

I grant permission to the State of California; the Trustees of the California State University; California State University, Northridge and their employees, officers, directors, volunteers and agents (collectively “University”) to take and use visual/audio images of me. Visual/audio images are any type of recording, including but not limited to photographs, digital images, drawings, renderings, voices, sounds, video recordings, audio clips or accompanying written descriptions. University will not materially alter the original images. I agree that University owns the images and all rights related to them. The images may be used in any manner or media without notifying me, such as university-sponsored websites, publications, promotions, broadcasts, advertisements, posters and theater slides, as well as for non-university uses. I waive any right to inspect or approve the finished images or any printed or electronic matter that may be used with them, or to be compensated for them.

I release the State of California; the Trustees of the California State University; California State University, Northridge and their employees, officers, directors, volunteers and agents (collectively “University”), including any firm authorized to publish, broadcast and/or distribute a finished product containing the images, from any claims, damages or liability which I may ever have in connection with the taking or use of the images or printed material used with the images.

I am 18 years or older. I understand the legal consequences of signing this document, including (a) releasing the University from all liability, (b) promising not to sue the University, (c) and assuming all risks of participating in this Activity, including travel to, from and during the Activity.

I understand that this document is written to be as broad and inclusive as legally permitted by the State of California. I agree that if any portion is held invalid or unenforceable, I will continue to be bound by the remaining terms.

I have read this document, and I am signing it freely. No other representations concerning the legal effect of this document have been made to me.

Printed Name __________________________________________ Date _______________________

Signature __________________________________________ Telephone or Email Address
Appendix F - continued

Visual/Audio Image Release Form

If Participant is under 18 years of age:

I am the parent or legal guardian of the Participant. I understand the legal consequences of signing this document, including (a) releasing the University from all liability on my and the Participant’s behalf, (b) promising not to sue on my and the Participant’s behalf, (c) and assuming all risks of the Participant’s participation in this Activity, including travel to, from and during the Activity. I allow Participant to participate in this Activity. I understand that I am responsible for the obligations and acts of Participant as described in this document. I agree to be bound by the terms of this document.

I have read this two-page document, and I am signing it freely. No other representations concerning the legal effect of this document have been made to me.

__________________________________________________________  _____________
Print Name of Minor Participant’s Parent/Guardian                   Date

__________________________________________________________
Signature of Minor Participant’s Parent/Guardian

__________________________________________________________
Minor Participant’s Name
Appendix G: Sample German Sign Language Video

Appendix H: Lexicalized Fingerspelling-Fingerspelled Loan Signs

The symbol (#) is used to preceding the gloss to indicate the following sign is lexicalized fingerspelled unit. A sample is provided below.

#ABOUT  #EARLY  #PIZZA
#ALL    #EASY    #QUIZ
#APT    #EX      #REF
#ASK    #FAV     #RX
#AT ALL #FIX     #SALE
#B.S.   #FUCK    #SEX
#BACK   #FUN     #SEXY
#BANK   #GAY     #SO
#BEACH  #GO      #SOON
#BOX    #GRADE   #STYLE
#BREAD  #HA      #SURE
#BULLSHIT #HC     #TAX
#BURN   #HURT    #TB
#BUS    #IF      #TOO BAD
#BUSY   #JOB     #TOYS
#BUT    #KILL    #TRUCK
#CAR    #KO      #TTY
#CLUB   #LAW     #TV
#CO     #MILES   #UP
#COKE   #NG      #UPSET
#CS     #NO      #VEG
#COLL   #OFF     #WHAT
#DEPT   #OH      #WHEN
#DID    #OK      #WHY
#DO     #OR      #WOULD
#DO-DO  #OUT     #WOW
#DOG    #OWN     #YES

(Lexicalized Fingerspelling-Fingerspelled Loan Signs, n.d.).