UNDERSTANDING DEAF READERS:
AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

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Abstract

The development of reading skills, beyond a functional level, is difficult for most deaf readers. Standardized testing demonstrates a median 4th grade reading level that remains consistent even after national norming of the Stanford Achievement test on the population of deaf school children. Deaf education continues to generate various educational interventions, yet few interventions lead to classroom implementation of effective-based practices.

Research associated with successful deaf readers who read at levels equal to or better than the average 12th grade hearing reader is less prevalent. Subsequently, effective identification of how these deaf readers successfully comprehend text is not well understood. Understanding how successful deaf readers develop their reading comprehension strategies may prove beneficial to educators and deaf readers. The primary research question asks, “What experiences contribute to the development of successful deaf readers?” Two secondary questions support the exploration of this topic by asking: “In what ways do these experiences support their reading process?” and “Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers?” Integration of an interpretative phenomenological analysis and self-determination theory will support the analysis and potential identification of those particular experiential, social, and educational events that contribute to the development of successful deaf readers.

Keywords: deaf readers, interpretative phenomenological analysis, reading comprehension strategies, bilingual /bicultural model, self-determination theory
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Dedication

To my father, who never finished the fourth grade, a debt of gratitude is due for the wisdom he shared about life. Also, to that special moment where the awareness of the grammatical rules for the use of “a or an” allowed words to suddenly have meaning to a little deaf boy. Finally, a special thanks goes to Robert Louis Stevenson for the gift of Treasure Island.
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Problem of Practice

Since the early 1900’s standardized testing has consistently demonstrated a median 4th grade reading level for deaf readers. These median-reading results have remained consistent for deaf readers even after national norming of the Stanford Achievement test on the population of deaf school children (Allen, 1986; Pintner & Patterson, 1916; Traxler, 2000). This indicates there has been limited success in providing appropriate reading instruction for most deaf readers. Recent meta-analysis of literacy research conducted on deaf readers over a forty-year period (1963-2003) provided findings indicating few effective-based practices have been developed for classroom purposes (Luckner & Handley, 2008; Luckner, Sebald, Cooney, Young, & Muir, 2005). Meanwhile, little research has focused on the experiences of successful deaf readers. In standardized testing, five percent of deaf readers are reading at levels equal or better than the average 12th grade hearing reader (Kelly & Barac-Cikoja, 2007). This has led Marschark (2002) to conclude that:

“We know that some deaf adults and children are excellent readers and writers, but we do not know how many there are or how they achieved this level of literacy…How much of it is their home environment, early intervention programming, or just natural talent?” (p. 394).

The lack of a holistic understanding of how the diverse cultural, educational, and language experiences of deaf people influences their reading abilities may reflect the inherent difficulties in transferring research to best practices. Researchers have perceived a fundamental difficulty in quantifying and articulating how research can contribute to practical development of teaching strategies or improved curriculum design (Guba & Lincoln, 1982; Guba & Lincoln, 2005; Luckner & Handley, 2008).
Creating a holistic understanding of critical aspects of learning associated with successful deaf readers may involve use of a sociocultural model. Yet, sociocultural models have not historically been supported within the deaf education field (Parasnis, 1997), which may have silenced deaf voices and reduced opportunities to fully identify phenomena uniquely associated with successful deaf readers.

**Significance**

What may have inhibited research efforts of successful deaf readers involves a historical trend within deaf education. It could be argued that until the mid-20th century the low reading achievement of deaf readers was addressed through vocational programs provided by the residential deaf schools leading to work in the trades. As Federal and State educational policies and public laws were passed educational costs increased and encouraged a gradual migration of special populations to public education where access to vocational training was not as readily available to the deaf student population as it was in the residential schools.

Laws such as the Education of the Handicapped Act of 1970 (EHA, Public Law 91-230, Part G) later amended as The Education for All Handicapped Children Act of 1975 (EAHCA; Public Law 9-142) mandated integration of all special education students into the public school setting. Further changes subsequently led to the Individuals with Disabilities Act of 1990 (IDEA, Public Law 101-476) being established and the combined effect of these various laws caused a demographic shift. For deaf students the migration from state funded institutional settings resulted in reduced opportunities for vocational training. Between 1975 and 2001 national attendance at residential schools declined from 49% of all deaf or hard-of-hearing children to 24.7%. Over the same period public school attendance for deaf students increased to 75.3% (Karchmer & Mitchell, 2003).
With the enactment of the No Child Left Behind Act of 2001 (NCLB, Public Law 107-110) demands for higher literacy and academic achievement directly affected all students and fostered higher educational expectations. This contributed to a sense of urgency for improving the reading levels of all students. For deaf readers that has proven to be problematic as their reading progress has remained unsatisfactory over the past century. Due to this lack of progress some educators have begun to suggest that higher levels of reading comprehension may not be a realistic goal for deaf people (Paul, 1998).

If educational expectations for deaf students are lowered, deaf people may experience worsening social and economic disadvantages (Marschark, Lang, & Albertini, 2002). To avoid this, educational interventions need to begin to effectively educate deaf people in regards to reading and writing competencies. There is also a need for deaf people to be directly involved in the educational research process to enhance opportunities for the development of effective reading skills.

**Research Questions and Goals**

The researcher, as a deaf person, has an intimate understanding of how reading proficiency and language competency can contribute to a personal, professional, and academically successful life. The researchers’ direct observation of deaf students’ reading difficulties and awareness of educational trends has created a heightened awareness of a deficit model within deaf education.

As deaf people are categorized, despite their heterogeneous experiences, as being deaf from an audiological perspective, hearing-impaired from a medical viewpoint, hard-of-hearing within a social context, and Deaf within a cultural situation, it obscures how “Deaf bilingual-bicultural people function linguistically, cognitively, and socially in the Hearing world” (Padden,
Padden’s capitalization of the terms ‘Deaf’ and ‘Hearing’ call attention to the dynamics associated with the unique cultural customs, values, and language experiences of individuals, particularly those who are deaf. These experiences are not bound to the common word definitions for deaf and hearing that have been based on being able or not able to hear. Consequently, there are personal, altruistic, and professional interests in understanding successful deaf readers that are best achieved through a qualitative approach based on phenomenology. These intellectual goals are centered on generating an understanding of the experiences successful deaf readers associate with effective reading achievement.

Efforts to understand the experiences of successful deaf readers will be pursued through the following question: *What experiences contribute to the development of successful deaf readers?* To transform these experiences into useful propositions for future research purposes, descriptive efforts will need to be directed towards two additional questions: (a) *In what ways do these experiences support their reading process?* (b) *Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers?*

**Organization of the Document**

Three primary sections support the research framework used in this study: the theoretical framework, the literature review, and the research design. The theoretical framework is based on potential motivational influences as defined by Self-Determination Theory (SDT). The literature review focuses on reading comprehension, reading strategies, and a bilingual-bicultural model for deaf students. In-depth interviews are used to explore these research questions and provide data for transcription analysis. Other resources involve the use of research memos, journal entries, and researcher reflectivity.
Theoretical Framework

Doing science is a symbolic act involving attitudes, or propensities to act; values, or objects desired; and a framework of meanings, or methodology.
(Manning, 1982, p. 274)

A theoretical framework is grounded within a specific paradigm choice. Ford (1975) suggested that a paradigm is “generally collectively agreed upon [to] guide and channel each individual’s perceptions in a specific and distinct direction” (p. 10). Being aware of these paradigmatic choices and the subsequent influences of paradigmatic choice on research outcomes is an important step towards structuring an appropriate research design. Historically a variety of paradigms have been used such as positivism, post-positivism, critical theory, and constructivism (Guba & Lincoln, 2005) contributing to different conclusions concerning the needs and abilities of deaf readers. This has lead to a degree of paradigmatic ‘noise’ (Musselman, 2000; Paul & Ward, 1996) to the point that Musselman notes:

“…no one knows yet how deaf children learn to read. And the jury is still out on whether they use processes that are qualitatively similar or dissimilar to those used by hearing children, for whom printed language is primarily an alternative presentation of spoken language. This is essentially the crux of the matter: Since few deaf children succeed in acquiring functional levels of spoken language, it is perhaps surprising that they learn to read at all” (p. 25).

To reduce paradigmatic noise, the use of an approach that synergizes these multiple paradigm perspectives may prove useful. Thus, choosing an appropriate paradigm is critical and mandates that the researcher stay open to the nature of reality (ontology), the relationships between knower and what is known (epistemology), and what can be known (methodology) to address core questions to support data collection and analysis (Creswell, 2009). These mental processes are integrated constructions of reality that are interactively created and cannot be understood in its ‘parts.’ Instead there is a need to adhere to a holistic process for understanding
deaf readers (Guba & Lincoln, 1982). If researchers are not sensitive to how the data collection and analysis process influences their conclusions, within a specific paradigm, they may commit to conclusions about their research that prevent a fuller understanding of the data and result in the potential loss of important insights (Glaser, 1978).

Using a positivist paradigm as an example, where the ontological assumption that reality is external and observable (Guba & Lincoln, 1985), does not take into consideration that spoken and sign language barriers exist between researchers and their deaf subjects. The interference with direct observation that this creates forces some researchers to rely on written instruments which prove to be problematic due to the low reading comprehension levels of most deaf readers. Other researchers, mindful of the language barrier interference, may try to resolve language barrier issues through the use sign language interpreters believing this to be an effective alternative method for achieving direct observation of data. Yet, there are potential biases that reside in the use of language and also issues of power involved when interpreters or translators become part of the research process (Wong & Poon, 2010).

Consequently, it could be argued that the historical struggle with this persistent language barrier has encouraged the use of specific paradigms where the need to recognize and respond to intersubjective issues could be avoided. In this case a preference for quantitative over qualitative methods allows for a deductive approach to objectify subjects and justify a narrow focus on the respective parts of language. For example, in a bottom-up or text-based model (Paul, 1998), there is a theoretical framework that permits researchers to concentrate on phonology, vocabulary, word recognition, spelling, orthographic structure, and short-term memory aspects of reading for deaf readers (Musselman, 2000). As findings were generated from this approach, they were compared to the long-term research findings associated with hearing readers.
Paul (2010) supports the use of reading assessment in this manner based on the qualitative similarity hypothesis (QSH). This perspective views the acquisition of English language skills and literacy by deaf individuals as being qualitatively similar to the process used by hearing individuals. QSH maintains that both deaf and hearing individuals experience similar stages of language development, use similar reading strategies, and make similar errors as they acquire reading skills. The difference between the two groups contributes to a quantitatively delayed outcome for deaf readers. One distinction to make at this point is that QSH assumes that English is the primary language learned by deaf individuals and may overlook the qualitative differences for how deaf individuals interact with a spoken language or more than one spoken language. Qualitatively there may be more complex experiences associated with those deaf readers who are also using some form of sign language. By objectifying the deaf reader’s experience to isolated components of the reading process, opportunities to understand the holistic experience of deaf readers become isolated from the research process.

In this case an inductive process may prove helpful for identifying the particular and holistic experiences associated with successful deaf readers. Capitalizing on the intersubjectivity that emerges from the data generated by both researchers and participants may permit a level of reconstruction leading to a fuller understanding of the deaf readers’ experience (Dahlberg, Dahlberg, & Nystrom, 2008). For example, using a contextual/interactionist model researchers can note specific biological, psychological, social, and family influences that enable positive transitions between development stages rather than the historical reliance on static or predictive stages of development (Clark, 1993).

Research conducted by deaf researchers may not prove to be more effective than the work conducted by hearing researchers. On the other hand, they may introduce new ways of
knowing and understanding successful deaf readers that are not as easily observed by hearing researchers. This can enhance an interactive process for use in the observation and probing of deaf participants. For the purposes of this research effort, the social-constructivist paradigm is embedded in SDT to provide a framework for discovering tacit levels of knowledge because ontological experiences are perceived as being localized and are best explored through an in-depth interview protocol. According to Guba and Lincoln (1982) the epistemological beliefs of researchers and participants can jointly reconstruct the lived experiences based on their value-mediated findings that both discover during the interview process. Through hermeneutical and dialectical means of exchange researchers can interpret those findings into propositional language that extends the research process into new areas of potential discovery (Guba & Lincoln, 1995).

**Phenomenology**

These intersubjective experiences are contingent upon a researcher’s ability to interpret what participants are doing, saying, or not saying in particular ways (Schwandt, 2000). Ethnographical, hermeneutical, heuristic, and phenomenological stances are often used in a qualitative approach and situated within cultural, textual, and individual contexts. The phenomenological stance is particularly grounded in human experience and based on:

“the study of experience…a particular interest in thinking about what the experience of being human is like, in all of its various aspects, but especially in the terms of things which matter to us, and which constitute our lived world…it provides us with a rich source of ideas about how to examine and comprehend lived experience. Once we stop to self consciously reflect on any of this seeing, thinking, remembering and wishing, we are being phenomenological” (Smith, Flowers & Larkin, 2009, pp. 11-13).

Phenomenology appears to best address the research questions being asked and the design needs of this research effort. Another benefit from using a phenomenological approach is
the use of a reflexive attitude. Reflection enables researchers to transform everyday (natural) experiences of external objects “inward, towards our perception of those objects” (Smith, et al., 2009). As these everyday experiences become increasingly transparent the phenomenological attitude provides descriptive methods to capture the specific experiences of deaf individuals leading to their growth and maturation as successful readers. Phenomenology recognizes that the researcher serves as the instrument and requires researchers to explicitly recognize their personal experiences are being inherently biased regardless of rigorous efforts to be objective consistent with the naturalistic inquiry process (Guba & Lincoln, 1982). My lived experiences are specific, personal, and particular experiences of the reading process. Use of a reflective stance serves as another means of maintaining researcher sensitivity that reduces tendencies to adopt personal conclusions about the data.

Phenomenology also recognizes that direct researcher participation is challenging because it involves multiple roles as the interview moderator, collector of data, transcriber, analyst, and interpreter of data. Exploring the experiences of successful deaf readers may prove difficult due to the level of reflective thought needed to identify the particular experiences that influence the development, acquisition, and positive learning processes for deaf readers. Tacit experiences will prove challenging to translate into prepositional language to clearly identify, explain, and interpret those experiences (Lincoln & Guba, 1985).

For these reasons due diligence is needed to remain sensitive to personal bias in order to protect the ongoing validity of research findings. Still, the benefits of using phenomenology outweigh the challenges because the opportunities to gain new ways of knowing deaf readers should, according to Paul, (1998) “provide more light on the nature of interactive models of reading and, possibly, the implications for instruction in reading and writing” (p. 9). Thus,
understanding successful deaf readers may involve the use of either external, intrinsic, or a combination of motivational influences for understanding the biological and cognitive factors needed to become successful readers. Self-Determination theory (SDT) provides a theoretical perspective on human behavior that helps explains these motivational factors and may help support a theoretical triangulation approach beneficial to this research process.

**Self-Determination Theory**

SDT proposes an organismic-dialectical perception that “views human beings as proactive organisms whose natural or intrinsic functioning can be either facilitated or impeded by the social context” (Deci, Eghrari, Patrick, & Leone, 1994). SDT can provide a complimentary fit to the social-constructivist model because it conceptually supports individual abilities to internalize subject material not directly of interest to them, yet constitutes important activities for that individual. Intrinsic and extrinsic motivations are instrumental for learning, social development, and the attainment of personal well being by individuals.

Intrinsic motivation (IM) contains several variables driven by specific psychological needs. These variables are competence, relatedness, and autonomy (Deci & Ryan, 2000) along with additional variables found in extrinsic motivation (EM). These variables are associated with individual responses required to satisfy their personal choices that are prompted by external environmental influences and the individuals’ perceptions of those external influences.

IM relies on an individual’s ability to satisfactorily achieve competence and autonomy identified within a sub-theory of SDT identified as cognitive evaluation theory (CET). It is used to identify specific “ factors that explain variability in intrinsic motivation” (Deci & Ryan, 2002). Individuals need to perceive that competency and autonomy are accomplished through individual
autonomously self-determined actions that are associated with an individualized sense of relatedness.

EM functions from a different perspective where individuals value different types of external influences. The individual perceptions of choice or imposition caused by external influences generate, according to Ryan and Deci (2002) a range of behavioral responses from “amotivation, passive compliance, to active personal commitment” (p. 71) contingent on how an external reward is valued. To further clarify the differences between intrinsic and extrinsic motivation an organismic integration theory (OIT) was developed by Deci and Ryan to identify the “contextual factors that either promote or hinder internalization and integration of the regulation of these behaviors” (p.72).

Of the two types of motivation IM can predict the frequency of reading for enjoyment and a commitment to performing reading tasks. Since reading competencies and motivation are linked to successful text comprehension this indicates that both cognitive and motivational factors are involved (Wang & Guthrie, 2004). Also the importance of family, teachers, and peers to promote student motivational efforts for learning has been stressed (Marschark et al., 2002) indicating the importance of intrinsic and extrinsic motivation. Yet it appears research has been limited in this area of deaf education.

Avery (1994) suggested that individuals with high levels of self-determination are not necessarily the most independent or autonomous because they have recognized elements of interdependence. Wehmeyer (2003) identifies this as a “more satisfying state of being than complete autonomy, at least when the individual knowingly and voluntarily relinquishes control” (p. 28). As individuals strive to gain self-determination they need to recognize their individual perceptions of what is important to them. Self-Determination has environmental influences that
also determine what is important to individuals (Wehmeyer, Abery, Mithaug, & Stancliffe, 2003). Wehmeyer (2003) proposes that these environmental influences may need to be considered to support an “understanding of self-determination within the context of one’s culture” (p. 50).

Within deaf education it may be even more important to recognize environmental influences due to the social, familial, political, and educational experiences of deaf people that obscure the effects of interdependence behaviors. For these reasons further study of self-determination strategies closely linked to optimal parental, social, and environmental support (Deci & Ryan, 2000) are needed and the use of SDT constitutes an important theoretical lens to investigate the experiences of successful deaf readers.

SDT integrated with IPA and further situated within a social-constructivist paradigm provides a coherent theoretical framework for supporting the transactional and dialectical aspects of this study. It can promote new ways of understanding deaf readers by revealing the dissemination, research, curriculum design, and educational needs of 21st century deaf readers.
Chapter Two

Literature Review

An exploration of successful deaf readers requires understanding the multidimensional influences experienced across social, cultural, psychological, and educational situations. To address this, the literature review is organized into five sections: (a) an introduction; (b) an overview of Self-Determination Theory (SDT) establishing the current theoretical perspectives regarding motivation and language acquisition, and the development of reading proficiency; (c) an exploration of reading comprehension to demonstrate how deaf readers mediate text in ways that are similar or different from hearing readers; (d) an exploration of reading strategies and how these strategies may or may not be effectively used by deaf readers; (e) an exploration of current research concerning bilingual/bicultural influences, if any, associated with the deaf experience.

This literature review recognizes that there have been specific paradigmatic choices used to understand deaf readers primarily conducted from a clinical (deficit) perspective (Moores, 1987; Paul & Quigley, 1990, 1994). This can be seen by the frequent use of the term ‘deafness’ in research articles. Deafness is perceived as a deficiency requiring intervention, prevention, and curative methods to ameliorate the physical limitations of deaf individuals. Deafness, in this context, is a common term used in medicine, audiology, and speech pathology to emphasize the physical, psychological, and medical approaches required to address the pathological conditions of deaf individuals (Paul & Quigley, 1990).

Other researchers see deaf people from a cultural perspective distinctly affected by a wide variety of social, political, and economic conditions. In this situation deaf individuals are grounded physically and psychologically in a unique visual experience with sign language being
a primary means of communication that facilitates “modern ways to recognize the boundaries between Deaf and hearing people, and to imagine what these boundaries should be” (Parasnis, 1996, p. 82). Within this context the literature on deaf readers contains sociopolitical goals that have and continue to generate contentious debates for designing appropriate curriculum for deaf readers.

Those holding a ‘deafness’ perspective find it counter-intuitive to think of deaf people as being either culturally or socially unique. Thus within deaf education, it is more common to focus on educational efforts that are based on remedial and curative solutions. This is perceived as the most cost effective and efficient means of educating deaf individuals. As a result, there are social, economic, and political factors at play that continue to exert pressure to reduce educational costs and for the achievement of better educational outcomes within deaf education.

Researchers who support a cultural view of deaf people will need to maintain an open attitude concerning the present state of knowledge and potential gaps within the literature. A reflective attitude is essential in order to maintain an open channel to opportunities for synthesizing research findings related to motivation, reading comprehension, reading strategies, and a bilingual/bicultural model associated with deaf readers. Historically these content areas have been researched separately, inhibiting opportunities for identifying development patterns and generating theoretical sensitivity to the data that can be constrained only by the “social psychological limits of the analyst’s capacity and resources” (Glaser, 1978, p. 3).

Being open to an exploratory approach supports the dialectical process contained within in-depth interviews. As data confirmation is accomplished through cross-referencing and use of a member-checking process to develop an analytical process accessible to both researcher and participants, the necessary steps are achieved for a qualitative study (Creswell, 2009). Learning
from participants generates an additional range of data points that builds toward a verification of the fit between data and theory (Glaser, 1978; Lincoln & Guba, 1985). From a contextual/interactionist and IPA perspective, the researcher remains open to opportunities to understand those particular intersubjective experiences generated between researchers and participants.

The diverse lived experiences of individuals are grounded in physical, emotional, and psychological needs that are satisfied primarily by communicating with others and through self-internalized communications (Mayer, 2007; Vygotsky, 1978) and is most likely driven by specific motivational efforts. If communication is indeed a critical factor in meeting individual needs then the language barrier experienced by most deaf individuals may have a definitive influence on their ability to be self-determined and motivated especially when it comes to reading.

For deaf readers, motivation may be a significant factor because reading is directly related to specific levels of phonological access. Every deaf person faces various levels of difficulty in accessing this phonological information as they pass through each critical developmental stage involving natural, egocentric, and inner speech proficiencies that lead to the eventual growth of thought in individuals (Vygotsky, 1986).

**Self-Determination Theory**

SDT proposes that individuals strive to integrate their needs through an active engagement with their social, cultural, psychological experiences. They are motivated due to a naturally innate desire to achieve an integrated self-image. SDT attempts to integrate multiple perspectives concerning the individual process of growth and development by connecting Aristotelian views with modern behavioral perspectives to view human motivation as being
effected by competing social and cultural factors that create fragmented identities. SDT sidesteps the use of dualistic perspectives by proposing that individuals balance autonomy (self-regulation) and homonomy (external regulation) through the use of complementary functions for self-integration (Deci & Ryan, 2002).

SDT proposes there are socio-contextual factors that either support or inhibit any innate efforts to become self-integrated. Individuals can either be highly integrated or fragmented based on the developmental outcomes they experience within specific social and environmental situations. The type and degree of self-determination used by successful deaf readers may indicate how motivation supports their processes towards becoming successful readers. SDT identifies specific stages of development necessary for satisfying personal, emotional, and psychological needs through self-determining motivational behaviors. SDT also explains individual avoidance behaviors that inhibit becoming self-determined frequently associated within family, social, and educational contexts that may be highly relevant to deaf readers.

Most deaf individuals are challenged from birth to overcome language barriers because 90-95 percent of deaf individuals are born into hearing families (Mitchell & Karchmer, 2004; Schein & Delk, 1974). They face a natural biological communication barrier that begins in the womb and continues throughout their lived experiences. Efforts to resolve the communication deficit of deaf readers has not been achieved despite extensive use of speech-reading, sound amplification support, modality choices such as simultaneous communication (use of sign language and speech simultaneously), and audiology support.

These educational strategies to reduce communication competency issues have proven to be time consuming and costly to implement. Even in early intervention programs involving deaf children as young as two months (Sass-Lehrer, 2011) there are lost opportunities to develop
adequate parent-child relationships essential for early childhood development and eventual language proficiencies (Aram, Most, & Mayafit, 2006).

Research findings suggest that early access to family, particularly mothers, is critical for the social, psychological, and learning development of children and is seen as a contributing factor to educational delays in deaf children (Fischer, 1998). A lack of early communication exposure within the family environment causes an immediate and sometimes long-term communication barrier between deaf children and their families. This can potentially develop a sense of learned helplessness (Abramson, Seligman, & Teasdale, 1978) where some deaf people gradually perceive themselves as incapable of becoming independent.

The severity of learned helplessness depends primarily on how parents respond to their deaf child and their choices for addressing each individual child’s social, emotional, and educational needs. This sets up situations where deaf children contribute their hearing loss and their communication isolation from family members to external events that are beyond their control causing some deaf individuals to assume they lack any personal control over their personal life due to these external events.

As deaf individuals live through their cultural, social, and educational contexts they may develop, depending on their individual experiences, a deeper pattern of learned helplessness due to increasing difficulties to effectively communicate. As a result they may choose to be less motivated or lack any motivational drive, which has been labeled an amotivated condition (Deci & Ryan, 2000). Deaf children entering an academic environment may find their prior experiences of learned helplessness confirmed by their experiences within the schooling system.

Deaf children in educational programs where they are often the single deaf person, or constitute a minority within the student body, struggle within their classroom environment
because the curriculum is provided using direct instruction methods that rely on the spoken language used by their teachers. Their inability to successfully or satisfactorily communicate with peers and teachers and their use of interpreters to facilitate communication implies that external factors control their lives and deepens their sense of learned helplessness.

This sense of learned helplessness becomes more prevalent when they are exposed to reading materials at higher academic levels. At this level teacher critiques of their response to readings indicates they are ineffective communicators. Both teachers and students lack a theoretical understanding of how phonological cues are a critical aspect necessary for learning to read and is directly associated with learning the alphabetic principle (Wauters, Van Bon, & Tellings, 2006; Wauters, Van Bon, Tellings, & Van Leeuwe, 2006). Not knowing or being able to perceptually understand the external reasons for their difficulties they naturally assume they are personally at fault for their academic failure (Morgan, Fuchs, Compton, Cordray, & Fuchs, 2008).

Currently, society and the schooling system assign a high value to reading and writing. The Federal enactment of the No Child Left Behind Act (NCLB) has intensified reading and writing efforts for all students. As the focus on academic achievement increases it leads educators to interpret reading deficits of deaf students as indicating deaf students are incapable of achieving a high standard of reading and writing skills. Deaf students experiencing lower expectations for their academic achievement can experience lower levels of self-efficacy (Bandura, 1977) and as their reading experiences continue to be heavily critiqued these experiences continue to degrade their sense of self-efficacy and promote higher levels of learned helplessness.
SDT identifies this behavioral pattern as a locus of causality. Individual perceptions prevent them from achieving autonomy due to their experiences with external influences that undermine their efforts to achieve sufficient intrinsic motivation to academically succeed (Deci & Ryan, 2002). When this is taken into consideration it is not surprising that since 1916 many deaf readers have plateaued at a median fourth grade level (Pintner & Patterson, 1916).

SDT can help determine the effects of motivation and the appropriate levels of self-determination needed to help deaf individuals become academically successful readers. But, SDT does not assume that self-determination can be accomplished solely through individual effort. There are specific social-contextual and social-environmental factors that SDT suggests will hinder or promote the development of self-determination in spite of individual efforts to achieve autonomy. SDT sees a constant interaction between social contexts embedded within cultural, educational, political, and social environments involving intrinsic, extrinsic, or amotivation behaviors.

Furthermore, individuals do not remain in one motivational domain. SDT identifies a continuum where the development of autonomy and self-determination can be driven by either extrinsic, intrinsic, or a combination of both types of motivation. However, SDT proposes that intrinsic influences provide better outcomes while recognizing that extrinsic influences can be beneficial to individuals. This occurs when autonomous and self-determined choices are internally valued and integrated based on their sense of relatedness to these various socio-environmental influences.

The complexity of these various factors can be visually comprehended by reviewing a hierarchical model provided in Table 2.1 below developed by Vallerand (1995). This hierarchical model presents a centrally located locus of life contexts involving education,
interpersonal and leisure relationships. Surrounding these life contexts are social, situational, and global motivation factors that contribute to a variety of consequences. The chart demonstrates the multidimensional complexity that individuals mediate to integrate their educational, social, and psychological needs.

Thus, the development of motivation is influenced by global, contextual, and situational factors. Deaf individuals, due to their inability to efficiently access these different life contexts or to counteract the influences of various factors may face a greater degree of difficulty in developing the appropriate types of motivation needed to be successful.

**Figure 2.1: Types of Motivation**

![Hierarchical Model of Intrinsic and Extrinsic Motivation](image)

*Figure 2.1 The Hierarchical Model of Intrinsic and Extrinsic Motivation (adapted from Vallerand, 1995). (Reprinted from the Handbook of Self-Determination Research, Chapter 2, p. 41 by Vallerand and Ratelle, 2002)*

It is possible that they are likely to drift toward attitudes of indifference regarding their life experiences and adopt behaviors that are amotivating (Vallerand et al., 1993). Keeping this
model in mind can serve as an effective indicator of the possible factors that motivate deaf readers. By listening to the lived experiences of successful deaf readers certain motivational factors may become apparent and help explain how they meet their basic psychological needs and acquire the necessary resources to manage their family, cultural, social, and educational contexts. Still, motivation alone does not likely contribute to the success of deaf. How deaf readers develop their abilities to comprehend textual materials needs to be fully understood before any improvements in instructional methods can be accomplished for deaf readers.

**Reading Comprehension**

Phonology-centered reading theories have identified a relevant link between phonemic awareness and reading acquisition for hearing readers are considered a strong indicator of reading ability in hearing children. Theoretical assumptions are made that phonological awareness has a similar impact on deaf readers and that most reading difficulties faced by deaf readers are caused by phonological deficits. Phonological knowledge enables learners to engage in skills such as rhyming, alliteration, and syllabification. Identifying, blending, segmenting, and manipulating sounds are considered specific skills needed to support reading abilities (Narr, 2008).

Thus, from this theoretical perspective the development of phonological-based reading strategies that are visually accessible to deaf readers has been emphasized and classroom interventions developed incorporating Visual Phonics and, to a lesser degree, Cued Speech to visually support phonemic awareness among deaf readers (Trezek & Wang, Wang, 2006). Other researchers have challenged this and proposed that deaf readers may process phonological information differently from hearing readers (Miller & Clark, 2011). There is evidence that deaf readers may seek alternative strategies to understand text by using an orthographic approach for
comprehending written words. It is believed that such an approach would compensate for deaf readers’ lack of phonological sensitivity to key phonological properties contained within written words.

When deaf readers incorporate orthography as an alternative strategy, it may create an overlap with phonological coding awareness and as deaf readers learn to read a certain amount of phonological awareness may be internalized (Mayberry, Del Giudice, & Lieberman, 2011; Miller, 2010). Though, in this case phonological coding seems to explain approximately 11% of the variance for most deaf readers and research is needed to determine the other 89% of variance that occurs for deaf readers (Miller, 2010).

Language acquisition and learning to read are separate and complex processes requiring successful integration with family, social, and educational settings. As individuals mature, they integrate prior language acquisition experiences with ongoing formal learning processes to address their current language and reading demands. This integration process involves complex and distinct demands on learning that present major challenges for deaf people (Clement & Kruidenier, 1983; Connor & Zwolan, 2004; Fischer, 1998).

During the early stages of maturation, the natural acquisition of language and reading for deaf individuals is impeded depending on the degree of their hearing loss. Formal learning processes encountered later are further complicated by sensory struggles to competently comprehend daily family, social, and educational levels of communication. Each learning opportunity is delayed to some extent depending on the innate ability of deaf people to acquire knowledge embedded in their direct life experiences (Bebko & McKinnon, 1998; Wertsch, 1979).
Knowledge units are identified as schema, and each schema represents knowledge as being psychologically integrated with other sub-units of schemata. As these schemas are developed, individuals gain the ability to infer meaning from their perceptual experiences (Rumelhart, 1980). Through this personal understanding of reality, comprehension of reading materials becomes accessible as individuals gradually build their schemas to include various life experiences depending on a complex set of goals and beliefs developed by each individual. Reading motivation is achieved based on how specific schemas are valued and serve as a guiding mechanism to support the pursuit of reading skills (Parault & Williams, 2010).

Managing such multidimensional roles while developing adequate reading skills requires communication skills that can interact across both social and academic registers. This becomes problematic when multi-dimensional roles are difficult to integrate within a deaf individual’s social and cultural milieu. On the other hand when this process is effectively supported individuals can reflexively become aware of how language forms one’s identity in different contexts (Dahlberg, 2006).

Negotiation across multi-dimensional roles is an important role for deaf readers to mediate as they cope with multiple language and cultural experiences. Efforts to help deaf people integrate these multiple roles have been delayed by a long-term and often contentious debate over specific language modalities for direct classroom instruction that are based on speech, sign language or a combination of both modalities. There are also contentious discussions concerning the appropriate application of the reading curriculum designs, based on successful outcomes achieved with hearing readers, for deaf readers.

Cognitive research has also begun to suggest that the brain development of hearing and deaf people may be qualitatively different (Hauser, Marschark, & Spencer, 2008). This has led
to questions concerning how deaf readers learn to read different from hearing readers from a cognitive perspective. For example, reading requires retaining sufficient information in short-term memory to comprehend and to infer meaning. A readers’ ability to comprehend, requires being able to automate parts of the process often associated with metamemory and metacognition awareness that integrates social interaction, common reasoning and the assessment of scientific thinking (Schneider, 2008).

Metacognition research has also spurred a focus on the mental process of acquiring knowledge currently identified as theory of mind (ToM) knowledge. This kind of knowledge is seen as essential for estimating the mental states of individuals in relation to their beliefs, desires, and intentions. ToM is acquired within social, cultural, and educational situations where observation, listening, and interaction skills are used to develop an understanding of the mental states of others. While deaf individuals can rely on their observation skills while interacting with others the language barrier inhibits their listening and personal interaction skills. Depending on an individual’s innate skills the opportunities to develop ToM capabilities are delayed in areas essential for the development of reading skills (Cyril, Melot, & Corroyer, 2008).

Current research has increasingly focused on emergent literacy issues (Williams, 2004) linked to phonological awareness (Luetke-Stahlman & Nielsen, 2003; Paul, Wang, Trezek, & Luckner, 2009; Trezek & Wang, 2006; Wang, Trezek, Luckner, & Paul, 2008). This focus was driven by prior research with hearing readers indicating that phonological awareness is an essential building block supporting the transition from spoken language to reading and writing (Byrne & Fielding-Barnsley, 1993; Wagner et al., 1993). As a result, a general consensus has been reached that phonological awareness is essential for deaf readers. The challenge is
determining how to transfer sound-based associations based on the English alphabet to a face-to-face modality based on visual cues (Mayer, 1999).

This has led to several proposals for visually providing phonological awareness to deaf students. One proposal is based on the use of visual phonics developed in 1982 by the International Communication Learning Institute. This system is based on forty-three manual hand shapes used to visually help deaf children develop sound to letter relationships. Trezek, Wang, Paul, and Luckner (2006, 2007) have devoted a good amount of research to this instructional method. Another proposal has been linked to the use of traditional speechreading or lipreading techniques using a direct instructional method between teachers and students to promote sound to text comprehension. However, the ambiguity in some vowel-consonant clusters makes lipreading an inefficient method for achieving full comprehension of phonological cues.

Attempts have been made to resolve these speech-reading issues by creating a supplementary cueing system called Cued Speech. Using this method involves manually representing the vowel-consonant clusters using specific hand shapes near the face to disambiguate vowel-consonant clusters visually confusing to lip readers (Leybaert & Lechat, 2001). Finally, proposals have been made to integrate articulation instruction, speechreading, fingerspelling, and writing. Each of these proposed solutions still lacks wide spread consensus within deaf education (Mayer, 2007).

Research has also produced findings that indicate that some deaf readers, similar to skilled hearing readers, learn to associate words through sight and sound relationships and incorporate the alphabet principle to efficiently decode the meaning of words. As deaf and hearing readers develop their language skills it promotes a meaning-making process leading to
effective implementation of inference strategies. Still, deaf readers’ use of phonology use is not efficient compared to hearing readers (Harris & Moreno, 2004). For most deaf readers, a wide range of variables restrict their ability to read associated with the degree of hearing loss, the amount of early intervention, and opportunities for early reading experiences. Lacking an efficient or accessible path to accessing the phonological process limits their understanding of the alphabet principle and inhibits their progression through the essential stages of reading development.

Recent research also indicates that a significant barrier for many deaf readers is related to their ability to develop adequate mode of acquisition (MoA) skills defined by Wauters, et al (2008) as “a relatively new type of construct that refers to the type of information children access when acquiring the meaning of a word or a sign” (p. 176). MoA is associated with word meanings and the types of information that readers need to develop meaning at the perceptual and linguistic level of language use (Wauters et al., 2006).

Perceptual information is developed through acquisition of sensory experiences, where meanings are attached to these sensory experiences and lead to categorical associations to help influence the reading experience. As readers make educational progress to the fourth grade level, conceptual information becomes increasingly important because it prompts the development of inferential skills related to higher academic levels of reading. As deaf readers progress through these multiple levels of textual representation, they face increasing demands on their comprehension skills at the word level, the sentence level, and the text level (Collins, Brown, & Newman, 1989; Zwaan, 1996). During early grade level development of reading skills (grades 1-3), learning patterns involving reading appear to be similar for deaf and hearing students due to a higher level of word usage associated with perceptual information. Also, as
deaf children progress through the third grade, MoA skills shift towards conceptual information requiring higher levels of inferential skills for reading. Wauters has found that reading comprehension begins to break down at this transitional level of reading for most deaf readers (Wauters et al., 2006).

These various findings identify difficulties that deaf readers face as they develop reading comprehension skills that appear insurmountable. Yet, successful deaf readers do exist and it is possible that other factors are in play that enables some deaf readers to overcome reading challenges that are tied to the use of reading strategies.

**Reading Strategies**

It is not clear that deaf readers use phonological information as a reading strategy similar to hearing readers. The difficulties of deaf readers to efficiently receive phonological information have been extensively researched and lead to the development of a phonological coding deficit hypothesis (Miller, 2009). This in turn has spurred increased efforts to intensify phonological sensitivity among deaf readers with the expectations that enhancing phonological sensitivity would lead to improved reading abilities within the general deaf population. Yet, a significant gain in reading skills and comprehension for deaf readers has been lacking. In its place is a stronger reliance on the orthographic appearance of written words as a strategic means for skilled reading at the lexical level. Deaf readers appear to have integrated a limited amount of phonological and orthographical knowledge to support their metalinguistic awareness as they approach reading tasks.

The achievement of reading proficiency requires the development of fluency sufficient enough to bridge word recognition and comprehension for deaf readers using a repeated reading strategy (Therrien, 2004; Welsch, 2007). Conversely, the strategy has limited value if
comprehension issues are not successfully addressed. This requires the effective use of questions to clarify text and sufficient practice with making predictions based on textual information. Instructional interventions that do not integrate fluency and comprehension strategies leave deaf readers with comprehension difficulties inhibiting their motivation to engage in repeated reading practices (Schirmer, Therrien, Schaffer, & Schirmer, 2009).

It appears then that additional reading strategies are needed beyond the lexical level. To comprehend text and infer meaning requires an awareness of syntactic, semantic, and pragmatic use of language. Poor deaf readers apparently fall behind good deaf readers as they increasingly rely on semantic top-down strategies to interpret textual content derived from their life experiences and their use of prior knowledge. This comes at the expense of syntactic knowledge to comprehend text (Mayberry et al., 2011; Miller, 2010), and deaf readers seem to lack sufficient awareness of the specific strategies they use while reading.

Like hearing readers they use metacognitive strategies related to asking questions about the text, summarizing the text, and making use of prediction. Unlike hearing readers they do not focus on the most effective strategies for constructing meaning. Instead deaf readers use strategies that often prove inappropriate to the reading tasks at hand. Their ability to monitor and evaluate their comprehension is not used effectively as they read. Deaf readers do use textual, content, and story schemas similar to hearing readers. Moreover the deficiency in their vocabulary knowledge appears to inhibit their ability to fully comprehend what they read (Schirmer, Bailey, & Lockman, 2004).

These kinds of findings support the use of a relational perspective of language use that is holistic to support language acquisition. In other words, phonological and orthographical strategies do not seem to completely explain how deaf readers approach reading. Part of their
difference appears at the text level rather than the word level of reading where four skill areas have been identified. These involve inferences made from implicit and explicit sources, story construction, self-monitoring, and the use of working memory at the sentence level (Oakhill & Cain, 2000). Motivation and metacognitive knowledge appear to be instrumental in the development of reading strategies where an individual’s ability to recognize how they learn is regulated by their learning processes.

Most deaf readers appear to have limited metacognitive knowledge preventing effective implementation of common reading strategies used by successful deaf readers. These deaf readers may rely more heavily on elementary reading strategies involving outlining, summarizing, and paraphrasing (Kelly, Albertini, & Shannon, 2001). According to SDT, the ability to achieve a higher level of metacognition requires relatedness, competency, and autonomy. The combination of these three elements enables individuals to pursue challenging personal or educational tasks more effectively (Deci & Ryan, 2000).

Successful deaf readers appear to use their metacognitive processes better to overcome these types of barriers and achieve higher levels of reading comprehension. Metacognition involves the use of knowledge and control over one’s individual thinking to manage their reading tasks and support effective knowledge development of text by using appropriate reading strategies (Strassman, 1997). Yet, how deaf readers perceive and mediate texts is not well understood, and it appears they use dependent strategies as their primary means of comprehending text. For example, students identified asking teachers for clarification using a dependent approach as their primary strategy instead of an independent metacognitive strategy such as re-reading the text to gain comprehension (Easterbrooks & Stephenson, 2006).
Other findings have indicated that college deaf students, across a wide range of reading grade levels, consistently had trouble identifying the main idea of a story, key content information or materials that were incongruent. These results were consistent even after training was provided for five reading strategies involving use of background knowledge, predicting, rereading, summarizing, and vocabulary/dictionary use. Focused instructional training did support improvement in content retrieval but not in synthesis of the main ideas for the better readers. Thus, deaf readers may over-emphasize word recognition and may use their metacognitive skills differently or inefficiently while reading (Kelly et al., 2001).

Exposure to reading over longer periods of time seems to influence how deaf readers approach the use of reading strategies. Older adults were identified as more active readers who used multiple reading strategies and higher levels of self-evaluation as they read. Younger deaf readers tended to be passive readers who relied on a single strategy approach and give up on comprehending text if that approach was not effective. They also appeared to have lower levels of self-evaluation. Thus, prior knowledge of what has been learned, perceived, and interpreted by deaf readers may be one factor, although not as efficiently used as it has been found with hearing readers (Banner & Wang, 2011).

It may be the case that as deaf readers mature they develop alternative reading strategies using multimodal patterns to supplement their understanding of their environment and the text materials they encounter in daily life (Cazden et al., 1996). Some prelingually or trilingual deaf readers tend to have functional communication skills that involve the use of English and other spoken languages in conjunction with American Sign Language (ASL). In this type of situation, it may not be evident as to the true language competency of these individuals because they
function through alternative means of communication different from the primary language used within their environment.

However, as they mature and develop language skills, their language competence may or may not improve depending on the environmental constraints they encounter. These involve characteristics related to positive self image, an interest and desire to communicate, active language interactions, and the ability to communicate with significant others that is comfortable and appropriate within interpersonal relationships (Light, 1989). Comparing how language competence, relationships between intrinsic and extrinsic motivation and metacognitive skills generate specific reading strategies, for both deaf and hearing adults, may identify how these reading strategies are qualitatively similar or different for successful deaf readers. To be motivated to read requires a belief in self often identified as self-efficacy. This supports the negotiation and mediation of text to achieve successful comprehension.

Reading is also a social activity, and shared experiences often serve to promote individual efforts to read with greater frequency. This can be supported by repeated reading strategies that help deaf readers gain important language competencies critical for their development as readers (Parault & Williams, 2010). Research has not tended to focus on this early developmental stage essential to the development of reading. Instead, there has been focus on the cognitive deficits and the identification of instructional components needed to decrease these perceived deficits. These findings and educational interventions attempt to resolve reading problems as deaf children progress through school.

Early intervention is not as well developed, nor is the causal relationship between reading and motivation for deaf readers fully understood (Morgan et al., 2008). Research indicates that early exposure to reading depends on parental or family involvement and associations with
engaging reading materials that create opportunities for shared reading activities with their children (Swanwick, 2005; Toscano, McKee, & Lepoutre, 2002; Wang & Guthrie, 2004). When family interactions are promoted, it leads to the development of intrinsic types of motivation to read independently. These types of interaction, while essential, do not always occur within families. For many deaf children it is an area where they face an impoverished language experience from early childhood (Marschark, Convertino, & Larock, 2006).

**Bilingual-Bicultural Model**

Within deaf education the primary perspective is that deaf students are individuals with an auditory disability. This can be readily seen through the passage of the Americans with Disabilities Act (ADA, 1990) and the Individuals with Disabilities Educational Act (IDEA, 1975) that implemented the requirement for integration of all disabled children, including deaf children, into mainstream public schooling. While public policy and laws were promoting the educational needs of deaf people from a disabled point of view, a minority view has developed that perceives deaf students as a cultural and language minority group. Efforts have been made to move away from a medical model of deaf people as disabled to a sociocultural model of deaf people as having their own language and culture (Johnson, Liddell, & Erting, 1989; Parasnis, 1997).

This sociocultural approach proposes that identity is developed through acts of persuasion within the individuals themselves and within the social context that they live. The struggle becomes establishing identity and values that fit the specific purposes of a group, creating a sense of solidarity and a clear distinction of differences and similarities that exists for the group and the society within which it resides (Penuel & Wertsch, 1995). With the prevalent view that being deaf inhibits the ability to efficiently acquire reading skills, the focus in
education has been on student deficiencies. Less consideration has been given to potential instructional weaknesses, alternative methods of schooling, and viable dual language methodologies such as American Sign Language and English (DeLana, Gentry, & Andrews, 2007).

The tension then is between the desire to be culturally recognized and the social and political issues related with achieving that recognition. This problem most likely occurs early in the life of deaf children as approximately 95% of American deaf children grow up in spoken language households (Mitchell & Karchmer, 2004). The early parental and family reaction to the presence of a deaf child is rarely perceived on cultural grounds. The child then is faced with the need to manage a constant interplay between spoken and signed languages while integrating home signs and gestures. These language experiences are often more complex than those found in monolingual situations (Call, 2011).

How deaf children manage this type of language interplay may have an influence on their language and cognitive development. This has fostered advocacy for the establishment of a bicultural/bilingual educational approach. Internationally, there is a more open perspective to the use of a bicultural/bilingual educational approach and to a lesser extent in the United States. The conjoining of these two terms implies that there are distinct bicultural and bilingual contexts already in place. This can be misleading due to differences in the development, language experiences, and personal histories that are highly variable within the deaf population (Marschark & Wauters, 2008).

The experiences of being bicultural and bilingual imply that an individual is competent in the use of two languages. It assumes they are functionally aware of the distinct differences of two or more cultural experiences and possess the skills needed to negotiate between the
competing beliefs, values, and norms contained within each cultural experience. This is not necessarily the case for deaf individuals. Instead, they spend a good amount of their personal lives coping with the daily tensions related to their ongoing exploration of identity. This involves active recognition of their personal dilemmas when dealing with deaf and hearing individuals in different social, political, and educational contexts while attempting to create an authentic self that is true to their personal constructions of what it means to be deaf (Ohna, 2003). The realization of the complex underpinnings that accompany the growth and development of a deaf individual are only now being asked within the current literature.

Thus, the idea of a Deaf epistemology model has only just recently been discussed as one means for development of better reading comprehension opportunities (Wang, 2010). Most of the reading curriculum used in deaf education has been designed based on the research findings of hearing readers. Current assumptions are that deaf students acquire language in a qualitatively similar manner as hearing children with the only difference being that it is quantitatively delayed (Paul & Chongmin, 2010). Curriculum design and implementation has worked from this assumption to modify current curriculum materials for classroom use with deaf students.

If being deaf is a distinct human experience rather than a sensory deficit, how then are the experiences of deaf learners similar or different from hearing people as they inquire, construct reality, and integrate their understanding of the world into meaningful units of knowledge? Currently there are two paradigmatic views of deaf people involving positivists’ opposition to a deaf epistemological approach and the constructivist perspective that it is appropriate to develop a particular epistemological approach in deaf education. The writings of Padden concerning a cultural perspective and by Ladd regarding a Deafhood perspective (Ladd, 2003; Padden, 1996;
Padden & Humphries, 1990) have called for recognition of deaf people as being culturally and linguistically unique.

To validate or counter these opposite views will require a careful study of how successful deaf readers perceive themselves within their environmental contexts and also how they mediate text based on an understanding of their lived experiences. Identification of multimodal patterns (Cazden et al., 1996) may help demonstrate possible alternative choices that deaf readers use that enable them to achieve effective comprehension of texts. It may be the case that successful deaf readers experiences are based on contexts that exist beyond the classroom and contribute to their long term success as readers.

Consequently, the social, cultural, and language experiences of deaf readers need to be considered while acknowledging that the deaf bilingual or bi-modal experience is not fully understood. Additionally, the combined effects of motivation, metacognition, reading strategies, and the bimodal language experiences of deaf readers need to be integrated to determine the viability of a deaf epistemology approach. How family, society, and educators come to socially and politically recognize these psychological, cognitive, and language experiences can help challenge the status quo and frame the current contexts of the deaf experience. As a result, it may be possible to acquire a better understanding of the variables that effect deaf readers and distinctly explain how they become successful readers.
Chapter Three

Research Questions and Research Design

The problem of practice and the primary research focus of this project will be based on an exploration of successful deaf readers. Prior research has focused primarily on the learning deficits faced by deaf readers with minimal attention focused on the experiences that contribute to the development of successful of deaf readers. An understanding about how deaf individuals successfully acquire reading proficiency has not been acquired by current research in a way that can be generalized or support transferability of those findings for the benefit of other deaf readers.

The primary question guiding this study is: What experiences contribute to the development of successful deaf readers? Marschark (2008) and Wang (2010) have proposed that these experiences are multi-varied involving social, political, paradigmatic, and educational factors that have not been fully understood within the research or addressed within the classroom environment.

To better understand these factors and how they may influence the experiences of successful deaf readers two supporting questions were asked: (a) In what ways do these experiences support their reading process? (b) Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers? These questions helped focus the research on identifying relevant experiences found within social, political, and educational contexts, which have contributed to successful reading outcomes for these individuals.
Methodology

This section identifies the procedures used to support an investigation of the specific experiences of successful deaf readers. These procedures will be defined based on a research design that considers the site and participation needs of the study, data collection, and data analysis processes.

To explore the experiences of successful deaf readers, the use of a qualitative method offers the best approach because the purpose of this study is to understand how deaf readers successfully read while addressing a number of communication, social, and educational barriers that normally inhibit the effective development of deaf readers. In this situation, identification and description of these experiences do not fully address the research questions because there is a need to focus on personal meanings within the particular lived experiences of successful deaf readers that best represent their reading experiences.

For this reason, an interpretative phenomenological analysis (IPA) approach was employed because IPA contains an idiographic aspect to its design that supports a focus on the experiences, perceptions, and views of the participants. The goal of IPA is to gain an understanding of those experiences that best serve to address the research questions associated with lived experiences that deaf readers identify as being supportive of the reading process (Smith, et al., 2009). IPA also includes purposeful sampling as opposed to probability methods to help researchers select participants that represent valuable perspectives on the reading experience.

Within the field of phenomenology there are various ways to achieve a phenomenological stance. The writings of Husserl, Heidegger, Merleau-Ponty, and Sartre proposed different phenomenological approaches for understanding lived experiences. Within these diverse
Idiography provides one of the conceptual contexts for exploring subjective experiences by using a systematic focus on the details and prescriptions needed to create a descriptive approach leading to potential contextual generalizations (Smith, et al., 2009). Idiography supports an intuitive, personal, and direct avenue to the lived experiences of participants because it supports a documentation process creating thick descriptions\(^1\) of observed phenomena to support identification of naturalistic generalizations (Geertz, 1973; Guba & Lincoln, 1982; Lincoln & Guba, 1985).

To further help ground the data in the particular experiences of individuals an iterative style is needed to promote the interactive processes between researcher, participants, data, and interpretation. Smith (2009) acknowledges that we are “embedded and immersed in a world of objects and relationships, language and culture, projects and concerns” (p. 21). Being immersed in these lived experiences requires the ability to interpret experiences. In this case, hermeneutics provides an interpretative approach to support the methods, purposes, intentions, and relationships that reside within the text into transcribed data that serves as the end product of in-depth interviews (Smith, Flowers, & Larkin, 2009).

The hermeneutic circle, focused on the relationship between the particular and the holistic, provides the necessary iterative style to support an analysis of the interpretation process. Iteration creates non-linear lines of thought that enable increased opportunities for creative assessment of the data. Smith (2009) has suggested that integration of conceptual contexts can

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\(^1\) Geertz (1973) developed the term ‘thick description’ from within the ethnography field. As understood by this researcher it involves the use of interpretation to construct what has happened between researcher and participant into an account that can be understood by others. It is written in sufficient detail to reveal the thoughts of the participants and their particular meanings.
best be achieved through an Interpretative Phenomenological Analysis (IPA) method because it is “qualitative, experiential and psychological research which has been informed by concepts and debates from three key areas of the philosophy of knowledge: phenomenology, hermeneutics, and idiography” (p. 11).

IPA involves an individual interpretation of the data and, during the process of interpreting data, the researcher attempts to remain sensitive to the data to enable the development of constructs. Thus, it is helpful to be aware of the observational aspects of construct validity for identifying differences within the data as the interview process aggregates both data and findings from individual cases (Peter, 1981). The trustworthiness and coherency of research findings is also an important consideration and theoretical triangulation has been proposed as one method for achieving this goal. Triangulation can assist in the verification of multiple points of perception, their meanings, and the understandings gained during each interview to differentiate and understand how phenomena can be interpreted (Kushner & Morrow, 2003).

Yet, within the educational field, there appears to be a lack of consensus for using theoretical triangulation. Guba and Lincoln (1985) cautioned that theoretical triangulation might not be a valid approach in naturalistic inquiry. Facts are seen as being bound within a theoretical framework and when these facts are applied outside of that theoretical framework they may become empirically meaningless since they no longer reside within the context where they were originally identified.

While Guba and Lincoln were cautious about the use of theoretical triangulation they supported its use when the degree of transferability appeared to be value-resonant and “enough ‘thick description’ is available about both ‘sending’ and ‘receiving’ contexts to make a reasoned
judgment about the degree of transferability possible” (1982, p. 247). Kushner and Morrow (2003) also support the use of theoretical triangulation if the theories can be shown to be complimentary and help clarify the complex realities existing within lived experiences. Theoretical triangulation, in this case, becomes possible when it is understood that there is an interactive relationship between theory, data, and axioms within a research design. Triangulation becomes useful as a tool for understanding successful deaf readers by considering the complex role motivation plays as cognitive activities integrate use of letter, word, semantic, and syntactic identification information (Leybaert, 1993).

Purposeful sampling will be used to support in-depth interviews chosen for this study to provide the best fit to an IPA approach. These interviews involve iterative encounters between the researcher and participants. The focus is on an intersubjective understanding of the particular situations within their personal life experiences that contributed to successful reading outcomes (MacDougall & Fudge, 2001). The research project plan was to invite nine participants to participate in 60-75 minute long interviews. These interviews were conducted through person-to-person videophone contacts that are recorded at the time of the interviews. Some follow-up questions were needed with participants to clarify each of the participant’s interview comments. Contingency plans were in place for additional interviews to collect data as needed to support the overall research process, though none were needed.

**Site and Participants**

Each participant was approached individually by the researcher and invited to participate in this study. The plan was to recruit nine participants whose personal experiences are fairly homogeneous in regards to the use of demonstrated academic level language skills. IPA primarily is concerned with a detailed account of the individual experiences. Smith, et al (2009)
recommend that this can be achieved by using a concentrated focus on a limited number of cases of between four to ten interviews with the quality of the data collected from each interview determining the total number of interviews necessary.

To gain homogeneity, the researcher focused on recruiting participants who have achieved personal and career success in academic and professional areas of work. Work expectations at this level are often associated with effective writing and reading skills that require the integration of cognitive academic language proficiency (CALP) skills. CALP is often associated with language proficiency, cognition, and memory skills that are considered to be major contributors to educational progress (Cummins, 1980).

The research purpose and method for conducting the interviews using video recordings was explained to each participant. The ability to use video recordings broadened the site and participant selection process because both researcher and participants could be taped using a person-to-person videophone format. This means that site selection did not need to be limited to a specific geographic location. It supported opportunities to effectively use purposeful sampling to identify participants that best represented the perspectives of successful deaf readers from any geographical location within the United States. During the early stages of interviewing participants were approached based on the personal contacts available to the researcher. As interviewing progressed the researcher networked with each participant using snowballing strategies that proved helpful in identifying subsequent participants (Liampittong, 2009).

**Data Collection**

Interviews were scheduled following research approval from the Internal Review Board (IRB) sites located at the Rochester Institute of Technology (RIT) and Northeastern University (NEU). The researcher personally approached each participant to explain the study and
requested his or her participation. The researcher explained why they were being asked to participate, the purpose and importance of the study, the expectations from each participant during the interviews, and how the information would be used. The researcher informed each participant that follow-up contact might be needed to clarify the data collected and to support the analysis of data. The researcher explained confidentiality and how data would be safely secured and disposed of after the research project was completed. All participants had the opportunity to ask questions regarding their participation and had additional opportunities to ask questions prior to each interview. Each interview included a pre-interview section to cover any pertinent background information about each participant prior to introducing basic interview questions.

All data collected by video recording were kept in a laptop that was locked securely in both the researchers home and office. The researcher transcribed video recordings and when the research was concluded all video recordings and transcriptions were prepared for eventual destruction. All participants received as a token of thanks a gift card valued at $15.00 from Amazon for participating in the interview process.

Smith, et al (2009) propose that an interview schedule supports the development of mind mapping techniques that assist the researcher in being in an engaged, active, and responsive interview process. This initial schedule of questions consisted of ten questions. The first three questions were situated in the participants’ present experiences, as these questions may be easier for them to extensively address during the early portion of the interview process. Questions 4 through 6 were used to probe the participants' past experiences. Questions 7 and 8 asked participants about their perceptions of themselves as readers and these were placed later in the interview process after they had time to address their present experiences.
According to Smith, et al (2009) placing these questions later in the interview process helps set a neutral tone early on in the interview. Questions 9 and 10 were placed at the end of the interview as these questions may challenge the participants to reflect at a deeper level. At this point in the interview, they should be comfortable with the interview process to engage in these final questions. The schedule also contained prompts associated with some questions to help the researcher probe during the interview process.

The structure of the interview schedule was an iterative process with each interview being transcribed, reviewed, and adjustments made to the interview questions based on each subsequent interview. A summary of the interview was generated and shared with each participant to foster a member checking process and assure that the researcher accurately reflected the participant’s perceptions and understandings of their personal reading experiences.

During the research process and particularly the data collection and subsequent phases of research, it was be important to remain open to the data as it was collected. This required the researcher to recognize the potential influences of his prior experiences during the act of interpreting data. One method for supporting an awareness of how one’s prior experiences influence their interpretation of findings is by maintaining a research journal.

Articulating these prior conceptions through journal writing creates opportunities to trigger heightened levels of self-awareness helpful to researchers as they explore the lived experiences of others (Dahlberg et al., 2008). In this case, the preservation of notes, concept maps, drawings, and journal entries supported this process. A secondary benefit of maintaining the journal will help in providing one means of maintaining an audit trail that could support the trustworthiness of this qualitative study (Creswell, 2009; Koro-Ljungberg, 2008).
Data Analysis

A qualitative and phenomenological approach places less emphasis on sample size and in its place stresses the importance of each individual interview as an iterative process. Researchers return as needed to certain phases to reevaluate their findings. Guba (1982) propose that this “is concerned first with developing an adequate idiographic statement about the situation he or she is studying, accompanied by sufficient “thick description” to make judgments about transferability possible” (p. 241).

Video recordings provide opportunities to carefully analyze details related to these different phases as they emerge during the interaction between researcher and participant. The interactions were conducted in American Sign Language (ASL), or some form of sign language. These video recordings were transcribed by the researcher from sign language into English and converted into propositional language for interpretative analysis. Initial readings were supported by annotations that generated ideas supporting specific phases related to reading, annotating, categorizing, linking, collaborating and summarizing data. These phases maintained interdependence as the analysis of the data is conducted (Dey, 1993). In this case, the use of purposeful sampling provides a potential means of acquiring rich data because it allows one to sample in various directions that appear relevant and workable to the researcher. As core variables are gradually discovered the sampling becomes selective as the focus centers on the issues pertaining to an emerging theory (Glaser, 1978).

As categories are developed, relevant themes identified, and the collection of comprehensive concepts derived from those categories identified, it enables the individual experiences of the research to emerge and make meanings evident to both participant and researcher (Dilthey, 1976). A coding process was developed that supported organization of
independent units of data, which were later organized into categories representing similar characteristics. As the process evolved and coded data aggregated, decisions were made as to what categorical areas best serve the interpretation purposes of the project (Lincoln & Guba, 1985).

**Validity and Credibility**

Guba and Lincoln (1982) argue that qualitative studies create a different context upon which the criteria for validity and credibility need to be evaluated. They proposed four criteria labeled credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (objectivity). To support these four criteria they outlined a number of steps involving researcher engagement, persistent observation, peer debriefing, triangulation, sufficient referential materials, use of member checks, purposive sampling, and audit trails.

In this study credibility relied on the use of member checks to confirm that the researcher has represented their stated realities in an appropriate manner. Transferability was achieved through the thick descriptions of data that an IPA approach supports during the research process. Dependability is problematic for this type of study because the process cannot be exactly replicated. Other researchers may choose other paths of inquiry that lead to different findings. Smith (2009) proposes that dependability can be enhanced by making the research process transparent where the stages of the research are clearly described, constructed, and conducted and listing of the precise steps taken to analyze the date. Transparency can be further supported through the peer debriefing and audit trail procedures that are incorporated into the research study as it progresses through stages of data collection, analysis and interpretation. This enables future researchers to build onto the results of this study to deepen the understanding of deaf
readers. Confirmability can be achieved through a clear demonstration of how the data has been reviewed to confirm findings. Using different perspectives or theories can support the triangulation process by cross checking the data. For this project, the Socio-Constructive perspective that is embedded in Self-Determination Theory provides the necessary theoretical perspectives to support effective comparison of the interpretations generated from the data.

This research project used the researcher as the research instrument for the collection, analysis, and interpretation of data. In the early stages of research, participants were recruited from the university or local geographical settings where the researcher resides. These participants were not under the direct supervision of the researcher, nor did they work in close proximity to the researcher. As the interviews progressed other participants were recruited from other geographical areas that reduced issues of power and influence. The videophone interview protocol also allowed participants to be interviewed in environments that are comfortable and under their control. Also, the researcher and participants most likely shared common experiences of being successful deaf readers.

For this reason, it is important for the researcher to recognize issues of bias, power, and influence during the intersubjective process with each participant. This is necessary because researchers have preconceptions that need to be bracketed or bridled and these pre-understandings are identified by Dahlberg, et al (2008) as “personal beliefs, theories, and other assumptions that otherwise would mislead the understanding of meaning and thus limit the research openness” (pp. 129-130).

It is also important to guard against any bias or beliefs that the researcher may have, concerning the analysis and interpretation of the data collected, because the researchers’ lifeworld is associated with the deaf experience. To support the accuracy of analysis and
interpretation, the use of a peer debriefing process was an effective tool during the research process. An outsider’s perspective can generate questions that impel the researcher to clarify the interpretation of this qualitative study in ways that may improve the validity of the research (Creswell, 2009).

Protection of Human Subjects

The National Research Act of 1974 (P.L. 93-348, Stat. 342) provides protections for human subjects involved in research to assure that their rights are protected across various research fields. This has led to the development of guidelines that are monitored within individual institutions by institutional review boards (IRBs). These boards are assigned responsibility for overseeing that ethical principles of research are maintained within various research fields (Singer & Levine, 2003). Research used for this study was conducted to conform to these regulations.

The participants in this study were involved in reflection of positive outcomes within their personal lives related to their reading experiences. There did not appear to be any apparent physical, social, or emotional risks for participants in this research study. Interviews were conducted using a person-to-person videophone format that allowed participants to choose a natural setting of their choice for their interview.

Throughout this study the participants had all procedures, processes, and outcomes explained to them and had opportunities to ask questions throughout the research process. Confidentiality was stressed and each participant was provided with clear options to withdraw from the research process at any time while the study was in progress. It was explained that withdrawal from the research project would not entail any financial cost or retaliatory consequences to them. Research was conducted in a manner that respected and considered the
needs of each participant following guidelines provided by the IRB offices of the Rochester Institute of Technology (RIT) and Northeastern University (NU). The risks associated with this research project for each participant were minimal as the context of the study was primarily focused on their successful experiences with reading. Data collected during the interview process is neither highly sensitive nor projected to cause physical or psychological harm to the participants. The confidentiality of the participants was reasonably achieved using appropriate measures. None of the participants were minors and the type of data collected did not cause social, economic, or legal harm (Creswell, 2009).

An initial application for approval to conduct human subject research was submitted to the RIT Institutional Review Board for review and approval. Issues of respect and fairness towards participants were ethically addressed to protect, develop, and promote the trust relationship between researchers and participants. Researchers have a responsibility to clearly demonstrate that their participants are being protected from any potential adverse effects causing any physical, emotional or social harm (Creswell, 2009; Liamputtong, 2009). After approval by the RIT IRB, the application was sent to the Northeastern University Institutional Review Board for their review and approval. Approved consent forms, letters of permission, sample questions, advisor approval forms, and other supporting documents were provided to comply with the IRB approval process.
Chapter Four

Report of Research Findings

Prior research has focused on the reading problems of deaf individuals with less revealed about the experiences of successful deaf readers. The purpose of this qualitative study was to understand the lived experiences of successful deaf readers. To support an understanding of those experiences an Interpretative Phenomenological Analysis (IPA) process was chosen to help identify and interpret the specific social, educational, and individual experiences that influence successful deaf readers. IPA also supports an interpretative process to review and interpret various experiences within the family, social and educational context that may lead to specific motivational or amotivational choices for deaf readers (Smith, et al., 2009). To gain further insights into the lived experiences of successful deaf readers Self-Determination Theory (SDT) was used as a theoretical lens to help the researcher understand the underlying psychological needs of successful deaf readers, focusing on motivational factors that support their reading efforts (Deci et al., 1994).

Due to the heterogeneous nature of deaf people a purposive sampling approach was determined to be the optimal approach for selecting participants for the interviews. Before initiating the sampling process, it was important to define what constitutes a successful deaf reader. The long-term trend for deaf readers has been a median 4.2-grade level for reading competency (Traxler, 2000). The educational capability to successfully educate deaf people at higher academic levels has been questioned. Successful reading for deaf people could be defined as indicated by UNESCO (Chapter 6) based on a functional literacy perspective. At this level literacy represents:
… the ability to use reading, writing and numeracy skills for effective functioning and development of the individual and the community. Literacy is according to the UNESCO definition ‘A person is literate who can, with understanding, both read and write a short statement on his or her everyday life.’ (Matsuura, 2006, p.158).

According to this definition students who are severely deaf may be best served by an educational curriculum utilizing a functional literacy foundation. On the other hand, the ability to read at a certain level does not correlate with being able to reason or think at a specific grade level (Paul, 1998). With the transition to a global society, the ability to functionally read may not be sufficient because individuals need to mediate, for example, emails, texting, captioning, and Internet search engines. As personal, career, and educational experiences shift from an audio-centric perspective to a visual-centric perspective; it may increase the demands for higher levels of reading fluency and literate thought.

Thus, the purposive sampling needed to use criteria that focused on identifying participants whose reading skills had made the transition beyond the functional literacy level. These successful deaf readers represent a type of deaf reader who does not typically appear within the general population of deaf readers. This group functions, from within the purposive sampling process, as an outlier group whose outsider status potentially serves as a means for illuminating the potentially valuable experiences and strategies of successful deaf readers (Barbour, 2001).

For this reason, the acquisition of an advanced degree was an early filter for selecting participants. The researcher decided that deaf readers who have earned advanced degrees have reading competencies beyond the functional literacy level. At the same time successful deaf readers are likely found in a wide variety of social settings, but extensive screening to identify successful deaf readers across these various social settings was beyond the scope of this research
project. Age diversity was another criteria used to select participants to assure that the data would reflect a wide range of lived experiences. The reasoning behind this was based on the Qualitative Similarity Hypothesis (QSH).

While the hypothesis is controversial and has been debated in the literature (Czubek, 2006; Paul & Chongmin, 2010; Paul et al., 2009) it still remains a hypothesis that needs to be taken into account until proven otherwise. QSH proposes that deaf readers acquire reading skills that are qualitatively similar to hearing readers with the main difference being that the process is quantitatively delayed. If the QSH is a valid assumption, then this potential delay may be deeply embedded in the reading experiences of deaf readers. These successful deaf readers will more likely be identified at later stages in their personal, academic, and professional life. If this is true, then the age range of participants needed to be slightly weighted towards older deaf readers.

As the recruiting process was initiated, educational background and age range of the participants was kept in mind. Through personal contacts, the researcher approached six participants that met the preliminary criteria outlined above. All six participants agreed to be interviewed and as each in-depth interview was conducted the researcher used a snowballing technique with the six participants and other peers to identify an additional eight participants. This resulted in fourteen individuals being interviewed.

As data were transcribed and analyzed, four participants were set-aside. One interview participant was assigned to a future research project focused on deaf readers who struggle with their reading experiences. The remaining three participants were held in reserve should any of the ten participants choose to withdraw or if the data analysis process indicated a need to add interview data. The basic data pertaining to the ten interview participants is displayed in Table 4.1 below:
### Table 4.1: Demographics: Basic Data of Interview Participants

<table>
<thead>
<tr>
<th>Interview</th>
<th>Age</th>
<th>Family</th>
<th>Degree</th>
<th>K-12</th>
<th>AA</th>
<th>Age/S</th>
<th>ASL Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>27</td>
<td>OD/4</td>
<td>M/Education</td>
<td>H</td>
<td>HA</td>
<td>12</td>
<td>AFS/H</td>
</tr>
<tr>
<td>2**</td>
<td>37</td>
<td>OD/4</td>
<td>M/Education</td>
<td>MS</td>
<td>FM/H</td>
<td>Cont.</td>
<td>MS/H</td>
</tr>
<tr>
<td>3**</td>
<td>42</td>
<td>OD/0</td>
<td>D/Medical</td>
<td>MS</td>
<td>HA</td>
<td>12</td>
<td>PS/H</td>
</tr>
<tr>
<td>4*</td>
<td>50</td>
<td>OD/4</td>
<td>M/English</td>
<td>DS</td>
<td>HA</td>
<td>8</td>
<td>PS/S/FS only</td>
</tr>
<tr>
<td>5*</td>
<td>36</td>
<td>OD/2</td>
<td>MFA</td>
<td>H</td>
<td>HA</td>
<td>8</td>
<td>MS/S/U/F*</td>
</tr>
<tr>
<td>6**</td>
<td>52</td>
<td>D/2/AD</td>
<td>M/SW</td>
<td>H</td>
<td>CR</td>
<td>C/F</td>
<td>AFS/D</td>
</tr>
<tr>
<td>7*</td>
<td>65</td>
<td>D/3/AD</td>
<td>D/Sp. Ed.</td>
<td>DS</td>
<td>CR</td>
<td>EA</td>
<td>AFS/D</td>
</tr>
<tr>
<td>8*</td>
<td>73</td>
<td>OD/5</td>
<td>M/Education</td>
<td>DS</td>
<td>N</td>
<td>EA</td>
<td>NS</td>
</tr>
<tr>
<td>9*</td>
<td>72</td>
<td>D/5/2H</td>
<td>M/English</td>
<td>DS</td>
<td>CR</td>
<td>EA</td>
<td>MS/S1/SD</td>
</tr>
<tr>
<td>10**</td>
<td>57</td>
<td>D/2/AD</td>
<td>M/Education</td>
<td>DS</td>
<td>HA</td>
<td>C/F</td>
<td>AFS/H</td>
</tr>
</tbody>
</table>

Note. * = personal contact; ** = snowball contact; Family = status in family; OD/ = only deaf of “x” siblings; D/ = deaf with “x” deaf siblings; AD = family all deaf; Degree = advanced degree level; K-12 = Education system experience; H = hybrid, mainstream and deaf school; MS = mainstream; DS = deaf school; AA= types of amplification; HA = hearing aid; FM = transmitter aid; CR = classroom headset; Age/S = age stopped using; C/F = college, freshman year; EA = early age, unspecified; ASL Use = sign use by family members; AFS/H = all family signed, all hearing; MS/H = mother signed, hearing; PS/H = parents signed, hearing; S = hearing sibling signed; FS = fingerspelled; U = uncle; F* = father signed later; AFS/D = all family signed, all deaf; NS = no one in family signed.

In the first column a single asterisk appears after participants that were personally contacted by the researcher and a double asterisk appears after participants contacted through a snowballing process. Basic data on family status located in column three and ASL use in column eight were collected to observe if the participant’s experiences with communication within their immediate and extended family were potential contributory factors.

Column six represents data collected on the participant’s use of any type of amplification system while growing up. This data was collected due to indications in the literature that the limitation of phonological awareness appears to be a key factor for the early development of reading skills of deaf readers. For that reason knowledge of each participant’s prior and current
use of amplification technology was collected so it could be considered during the process of data analysis (Wang, et al., 2008).

The participants’ ages ranged between twenty-seven and seventy-three. Four of the participants were between the ages of twenty-seven to forty-two. The other six participants were between the ages of fifty to seventy-three. All ten participants had completed advanced degrees at the Masters’ or Doctorate level and currently or have actively worked in the past in various professional fields involving education, the arts, and business. Nine of the participants have a profound hearing loss with minimal benefits from hearing aids or other amplified systems. Three of the participants stopped use of any amplification at an unspecified early age; four stopped between the ages of eight and twelve; and two stopped during their freshman year in college. Only one of the participants continues to actively use a hearing aid and none of the participants used a cochlear implant.

During their K-12 educational experiences five of the participants attended deaf schools; two participants attended a mainstream program; and three participants attended a hybrid program combining a deaf school and mainstream experience. Three of the participants came from deaf families where the primary language was American Sign Language. Five participants had families where some signing occurred, one participant’s family only used fingerspelling, and one participant experienced family communication limited to writing, gestures, and home signs.  

Research Questions and Background

The remainder of this chapter describes the data collection process, the inductive approach used to interpret and organize data into specific classifications, and thematic groups

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2 Home signs involves the development of a signed/ gestural communication system developed in a localized group such as a family, educational system, or social group that is different from a generally used sign language.
developed through observations, intersubjective interaction with participants, researcher
reflexivity, and theoretical sensitivity (Glaser, 1978; Hall & Callery, 2001). Since it is essential
to know the characteristics needed for a deaf reader to successfully achieve reading competency,
the interview questions needed to consistently tie back to the research questions (Anfara, Brown,
& Mangione, 2002). Understanding their reading progression involved a data-collection process
that effectively makes note of the perceptions, understandings and experiences that deaf readers
identify as being essential to their success with reading.

The process of understanding successful deaf readers was solidified further through the
use of Self-Determination Theory (SDT), which diverges from traditional psychological
constructs used to explain human motivational behaviors. Traditionally, motivation has been
seen as an intentional act based on external social pressures to conform to valued social norms
within a cultural or social group. SDT views motivation as a self-regulatory process that can be
externally induced through introjection or integration of values (Deci & Ryan, 1987).

Individuals internalize values that they encounter in various social-contextual situations
by either choosing to conform or to self-regulate their behaviors to support motivation. How an
individual will make those choices are influenced by the degree of control each individual
determines that they have over certain factors. SDT identifies the construct of autonomy,
conflict, pressure, and choice as being the primary factors involved in this process. How the
social and contextual elements are facilitated support each individual towards intentional
behavioral acts or integrated behavior that leads to self-determination. Table 4.2 clarifies the
perceptions associated with these two opposing views of motivation.
As an individual perceives their autonomous control of choice, participation in decision-making, and problem solving as being independently controlled by them, they psychologically make adjustments to address the conflicts and pressures associated with their efforts to select their desired outcomes. It involves a sense of relevancy or ‘buy-in’ to the values being integrated and they view their ability to control outcomes rather than seeing outcomes as an inevitable fixed component of their life experiences (Deci, Eghrari, Patrick, & Leone, 1994).

Thus, the interview questions used to guide the in-depth interviews were integrated closely with the research questions.

1. What experiences contribute to the development of successful deaf readers?

2. In what ways do these experiences support their reading process?

3. Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers?

Table 4.2: Motivation – Introjection vs. Integration

As an individual perceives their autonomous control of choice, participation in decision-making, and problem solving as being independently controlled by them, they psychologically make adjustments to address the conflicts and pressures associated with their efforts to select their desired outcomes. It involves a sense of relevancy or ‘buy-in’ to the values being integrated and they view their ability to control outcomes rather than seeing outcomes as an inevitable fixed component of their life experiences (Deci, Eghrari, Patrick, & Leone, 1994).

Thus, the interview questions used to guide the in-depth interviews were integrated closely with the research questions.

1. What experiences contribute to the development of successful deaf readers?

2. In what ways do these experiences support their reading process?

3. Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers?
A cross-referencing process was conducted between the fourteen interviews and four prompt questions found in Appendix A with the research questions. These questions were organized into a matrix shown below in Table 4.3.

**Table 4.3: Relationship of interview questions to research questions**

<table>
<thead>
<tr>
<th>Research question</th>
<th>Interview questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What experiences contribute to the development of successful deaf readers?</td>
<td>Q1,Q4,Q5,Q6,Q7,P1,Q8,Q10,Q11</td>
</tr>
<tr>
<td>In what ways do these experiences support their reading process?</td>
<td>Q1,Q2,Q3,Q4,Q5,Q6,Q7,P2,Q9, Q11,P3,Q12</td>
</tr>
<tr>
<td>Can an understanding of these experiences contribute to future research efforts to Develop positive reading outcomes for deaf Readers?</td>
<td>Q1,Q4,Q5,Q7,Q12,Q13,P4,Q1</td>
</tr>
</tbody>
</table>

During the interview process additional prompt questions were asked to clarify the participants’ fingerspelling of names, locations, and objects that were not clearly understood during the interviews. Additional prompt questions were asked depending on the need to encourage participants to expand upon their perceptions about specific experiences or concepts that they identified as being influential to their reading experiences.

One type of experience was associated with their perceptions of time, which was perceived as either promoting or inhibiting their reading opportunities. Another experience was associated with the high value they placed on their first book series. Some participants identified this experience as significant and suggested that it motivated them to read more extensively. They related their use of books as a substitute for the social interaction that was absent from their personal, family, or educational settings. They valued access to peer groups such as study groups or book clubs, and these experiences were explored further through prompt questions to
clarify these kinds of experiences. The participants saw these experiences as making important contributions to their development of reading comprehension and critical thinking skills.

Data Collection

The need to achieve credibility is an essential criterion to consider while collecting data. Traditional scientific methodology relies on validity, reliability and generalizability to acquire objective knowledge, develop truth-values, and replicate findings to generate universal findings beneficial to a broad population (Angen, 2000). Qualitative studies rely on credibility, transferability, dependability, and confirmability to determine if research findings can be judged to be valid or reliable (Lincoln & Guba, 1985; Morse, 2004).

Consequently, different practices are used to interact, interpret, and explain data. Quantitatively, the goal is to use an objective process for the collection of data to accumulate knowledge that can be reliably replicated and over time aggregated to support proofs. These proofs then generate verification of existing theory or the formation of new theoretical approaches defined by cause and effect that generate understandings beneficial to a broad population across multiple contexts.

Qualitatively, within a phenomenological perspective, the goal is to effectively understand lived experiences that enable the discovery of contextual meanings from localized contexts. Intersubjective interaction, between researcher and participant, and intrasubjective (researcher) reflexivity is used to construct meaning from what cannot be directly seen by the researcher or understood by the participant.

Despite these differences both research traditions have goals that are complimentary and share a common purpose to effectively make contributions to empirical knowledge. Depending on the questions being asked both approaches pursue the confirmation of existing theory or the
development of new theory. Both seek validation of new theoretical proofs or constructs that serve to explain the phenomena being researched (Ambert, Adler, Adler, & Detzner, 1995). Both approaches expect their research findings to engage a community of researchers or practitioners that “lead to additional questions and hypotheses for further research that might be conducted and…a concluding section that advances, the transsituational relevance of the research to a set of generic principles” (Ambert, et al, 1995, p. 884).

At the same time, an antipodal tension exists between both sets of criteria. Researchers need to consider the appropriate ethical and epistemological decisions needed to design their research. Subsequently, the optimal choice of a methodological approach becomes effective when the appropriate strategies provide the research project with the best fit to the questions being asked (Barusch, Gringeri, & Geroge, 2011; Creswell, 1998).

In this case the primary research question asked if the specific experiences of successful deaf readers are potentially useful to a broader base of deaf readers. As explained in Chapter Three, the use of an interpretative phenomenological analysis was determined to provide the best fit for exploring this research question. This methodological approach best supported the use of an on-going hypothesis testing process, the use of in-depth interviews, and reflexive interpretation of experiences. Additionally, these in-depth interviews promoted opportunities to collect multiple perspectives on these reading experiences that provided one form of triangulation.

Credibility was further maintained through an interactive relationship between theory, data, concept formation and the development of constructs within the research design. This was supported through the use of an iterative process involving the use of the hermeneutic circle. The coding process then organized data into discrete parts for analytic purposes, and later
integrated into categories. Finally, explanations of these experiences are closely linked to thick
descriptions from the participants to support potential transferability.

Each in-depth interview was then merged into a single document to continue the iterative
interaction with all ten interviews. This resulted in refinement of coding strategies, and
adjustment of the analysis based on further thick description. An early step towards supporting
credibility, and a reasonable degree of confidence in the research findings, was to provide each
participant a copy of the transcribed text of their interview. Through this member checking
process each participant had the opportunity to confirm, offer corrections, or provide additional
information to help clarify or expand upon the initial in-depth interviews. Most of the
participants responded with general comments that were usually positive and several participants
provided minor corrections. This provides some form of transferability (comparable to
generalization) by assuring that participants had the opportunity to confirm the accuracy of their
narrative explanations. This can be useful for future on-going research, educational policy and

The use of a hermeneutic circle supports opportunities for a researcher to conduct a non-
linear approach to these lived experiences, both the holistic and particular experiences, to support
the emergence of themes, concepts, and categories based on the researcher’s and participants’
experiences. When speaking of concept formation it is important to recognize that the term
‘concept’ had many descriptions or uses within cognitive science, philosophy, psychology, and
education. For the purpose of this research project, the term ‘concept’ is based on a
psychological perspective recognizing the human tendency to reflect and abstract differences
from the objects sensed within lived experiences. Concepts derived in this manner are seen as
experientially anchored to a notion or idea one develops through reasoning about their experiences (Nelson, 2011; Roth, 2011).

Furthermore, from a Representational Theory of Mind (RTOM), perspective concepts serve a representational purpose. RTOM supports the individual capacity to convey a certain kind of value to their experiences (Slaney & Racine, 2011). Concepts, when defined in this manner, provide the researcher and participants “with an array of cognitive abilities, most notably the ability to categorize, and to make inferences about and adopt propositional attitudes towards the objects, events, and relations encountered in experience” (Slaney & Racine, 2011, p. 82).

Within a qualitative study transferability can be limited because the inferences and explanations provided cannot be repeated in a fixed manner due to the unique experiences of each lived experience (Bulmer, 1979). Two strategies used to address these issues involved the use of thick descriptions and purposive sampling. In this way, potential transferability of the inferences made from the research project can be tested in future research projects to confirm or modify these findings. Thick description also confirms the degree of neutrality maintained by the researcher throughout the research process by giving the primary focus to the participant’s voices (Guba & Lincoln, 1982).

Dependability focuses on issues surrounding the ability of other researchers to replicate the findings that emerged from this research project. For qualitative work, this can be problematic as the experiences of the participants belong to a particular context that may prove difficult to replicate in other lived contexts. An alternative approach is to generate analytic openness to provide safeguards from researcher bias (Anfara et al., 2002). Providing a detailed understanding of particular cases generates confirmability and supports future research efforts
within similar settings (Carcary, 2009). In this case, others can confirm the processes undertaken in this research project and provide an indication that the fit between the two settings are similar enough to collect additional data (Koch, 2006).

Confirmability depends on an explicit description of how evidence was utilized, collection of data achieved, and the analytic process used to leave a clear decision trail for other researchers to follow (Sandelowski, 1986). Collection of data followed specific steps by integrating Smith’s (2009, p. 181) reference to Giorgi and Giorgi’s descriptive phenomenological psychological method for data collection, and Miles and Huberman’s (1994, p. 92) reference to Carney’s 1990 ladder of analytical abstraction. These two data collection processes were merged to create the following process as shown in Table 4.4.

**Table 4.4: Data Collection Process**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Interview participants, recorded through videotaping, regarding the phenomenon of interest based on their everyday experiences and create texts to work on.</td>
</tr>
<tr>
<td>Step 2</td>
<td>Transcribe/prepare raw data from American Sign Language (ASL) to an English text for review.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Read each interview text to gain a sense of the whole while testing coding categories to determine congruence as categories are developed.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Identify themes and trends in the data overall. Determine parts and establish meaning units.</td>
</tr>
<tr>
<td>Step 5</td>
<td>Test working hypotheses, reduce the bulk of the data for trend analysis, and transform meaning units into psychologically sensitive expressions.</td>
</tr>
<tr>
<td>Step 6</td>
<td>Determine psychological structure of meaning units.</td>
</tr>
<tr>
<td>Step 7</td>
<td>Delineating the deep structure</td>
</tr>
<tr>
<td>Step 8</td>
<td>Complete post structural analyses.</td>
</tr>
</tbody>
</table>
Data collection was conducted based on a series of standard questions shown in Appendix A and conducted over three months. The set of interview questions was self-tested by the researcher to confirm their usefulness. These questions were then cross-referenced as identified earlier in Table 4.3 to further confirm relatedness of the research questions with the interview questions.

The questions were developed in a manner that allowed open-ended responses using a semi-structured approach intended to encourage each participant to comfortably share their insights concerning their reading experiences. Participants’ involvement in the interview process varied from forty minutes to one hour and ten minutes in length. All participants consented to doing the interviews and agreed to have their interviews videotaped to ensure that information conveyed could be fully captured.

These interviews were recorded on videotape because the conversational language for both researcher and participants was conducted in American Sign Language. Consequently, these videotaped interviews do not contain an audio component.

Each interview was individually scheduled at a time and place of their choosing to provide a safe and comfortable environment fully supporting intersubjective opportunities between researcher and participant. As soon after the interview was completed the videotape was transcribed and a copy was provided to each participant. Each participant was able to review and confirm that the raw transcripts were a truthful, reliable and accurate interpretation of what each participant conveyed in sign language during the videotaping sessions. Eight out of the ten participants responded with minor corrections and positive comments concerning the transcripts. Two participants were not able to respond due to other pressing personal and work responsibilities.
Of the ten interviews videotaped seven interviews were conducted using Video Phone technology that allowed both the participant and researcher to be recorded. The remaining three participants either did not have access to a Video Phone or were not comfortable using the technology. These interviews were recorded using a FLIP camera that recorded only the participants’ responses. The researcher kept notes of the standard and prompt questions, along with general impressions noted during these three interviews and added them in the notes column during the transcription process. The researcher transcribed the videotapes using word processing software to create individual text files of each interview. Questions were formatted in italics and responses were in regular text format and separated by a hard return to facilitate reading of each file.

As each transcribed file was completed, it was converted using Microsoft Office Word for MAC 2011 into a table format. This particular process used Microsoft Office Word to conduct preliminary textual analysis (Ruona, 2005). Ruona’s outlined procedures for formatting tables within Microsoft WORD proved useful in conducting a tentative review, analysis, and assignment of themes, categories, and codes.

As data was reviewed the researcher reflected on possible categories, concepts, variables that to be considered. With subsequent readings of the transcripts, a “provisional start list” (Miles & Huberman, 1994) was developed based on ideas gleaned from the initial readings. This list was created based on the emerging problems, issues, and variables identified by the participants concerning their life experiences. Constant referral back to the main research questions continued to support further observations, creation of concepts, and categories based on the participants’ ideas and notions about their experiences.
Sensitivity to the data was maintained through the use of an “open coding stance” (Glaser, 1978) where the researcher keeps the data open to constant comparison between identified observations compared to conceptual and categorical development. To support the provisional start list some categorical associations were used based on a list of eighteen coding families identified by Glaser (p. 74). Over a three-month period the start list was continuously refined.

To demonstrate the evolutionary process of developing the coding list, three examples are provided in Appendix B. The first start list consisted of nineteen categories and one hundred-twenty groups broadly generalized into categories and sub-groups comparing potential categories. This aided in the early conceptualization of the experiences being conveyed by the participants. The second list shows the refinement of the coding list at approximately the halfway point. By that time the coding list had been reduced to eleven categories and fifty-two sub-groups through a conceptual sorting process (Glaser, 1978) focusing on the fit between concepts and categories as they were being developed. As analysis was conducted across the first and second coding examples, the researcher coded line-by-line using a numerical 5-digit system as shown in the second list.

After nine revisions the coding list was reduced to six categories and seventeen sub-groups. Two other categories were maintained to track general demographic information and other basic data. Consent and closing comments were also maintained and information clustered in these two categories were use to provide summary background information on the participants and the in-depth interview process.

After the interviews were collected, transcribed, and organized, they were each converted into a rich text format (RTF) and imported into HyperRESEARCH software. At this stage of
data collection, the amount of data had accrued to two hundred and twenty-seven pages requiring a more sophisticated method to organize, sort, and locate data in one place. This allowed the research analysis to effectively compare and directly use data to improve the credibility of any conclusions drawn during the research. HyperRESEARCH also facilitated the transfer of numerical codes to textual labels that aided in further refinement of concepts and categories within the data (Miles & Huberman, 1994; Smith & Hesse-Biber, 1996).

These categories and sub-groups were developed by constantly interacting with the data through an open and iterative process to observe the relationships between evidence emerging from the data through a phenomenological stance. A summarization of the result of this circular process is provided below in Table 4.5. The thematic results of this table evolved from the subjective observations of the researcher, participants’ descriptions of their experiences, and additional intersubjective experiences valued in qualitative research. Table 4.5 provides an outline of the categorical and sub-groups identified and refined throughout the research process. Each of these areas will be described in further detail throughout the remainder of Chapter Four. This enables an understanding of the reality and meanings subjectively discovered through those life experiences. It then serves as a method for clarifying the findings in ways that support confirmability (Sandelowski, 1986).

As categorical possibilities were generated, theoretical perspectives from Self-Determination Theory (SDT) were used to support an understanding of motivational constructs for theoretical triangulation of the participants’ experiences. These theoretical, thematic and coding processes provided a focus on the data based on the types of experiences deaf readers have while developing reading fluency (Bulmer, 1979).
An additional set of codes was used to tag general demographic information for age, family, and school background. Consent and closing comments were also coded for a total of one hundred seventy-one additional coded items that are not included in Table 4.5, but this information is summarized elsewhere in Chapter Four. Finally, there were additional probe questions asked during each interview to clarify and expand upon various statements made by each participant. A description of each theme and their correspondent codes are provided in Table 4.5 to explain the concepts used in this research project.

### Table 4.5: Code Frequency results

<table>
<thead>
<tr>
<th>Theme</th>
<th>Code</th>
<th>Frequency</th>
<th>Sub-Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td>43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>122</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategies</td>
<td>82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridging</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>225</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Experiences</td>
<td>124</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Transitions</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Associations</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inferences</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetition</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>314</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Interaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Experiences</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolation</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Motivation

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Determination</td>
<td>49</td>
</tr>
<tr>
<td>Extrinsic Motivation</td>
<td>47</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>131</strong></td>
</tr>
</tbody>
</table>

**Total Occurrences**: 899

**Theme 1 - Communication**: Communication involves descriptions by the participants of how their experiences, with various modes of communication, influenced their experiences depending on the type of access they had within their family, social, and educational environments.

*Mode*: Mode describes the specific communication choices used within family, educational, and social circumstances by participants to communicate with others.

*Experiences*: Experiences identifies the types of experiences that deaf readers encounter as they communicated within family, educational, and social environments that may or may not have contributed to their efforts to read.

*Access*: Access identifies how deaf readers perceive reading as an important means of satisfying their need for information.

**Theme 2 - Process**: Process describes various ways that successful deaf readers used strategies, as they understood them, as bridging techniques, and the various interactions used with others and with reading as an interactive tool.

*Strategies*: Strategies refers to the formal or informal strategies described by these deaf readers that supported the acquisition of reading skills and fluency.
**Bridging:** Bridging refers to how deaf readers described their efforts to connect different resources together to gain reading proficiency.

**Interaction:** Interaction explains where strategies or bridging activities were used with other deaf readers, teachers, or mentors.

**Theme 3-Reading:** Reading includes a variety of experiences or tools used by deaf readers as they acquired reading fluency.

**Transitions:** Transitions involves instances where their reading experiences had a cognitive, emotional or perceptual shift that significantly altered their approach to reading fluency.

**Experiences:** Experiences provides examples of the specific and/or general experiences participants had with reading processes.

**Associations:** Associations introduce various types of associations that participants made about their experiences as they developed reading skills.

**Inferences:** Inferences describes situations where these deaf readers felt they could begin to make specific inferences about their reading experiences.

**Reflection:** Reflection identifies the importance of having time to reflect on their reading and the necessary skills and/or abilities to use reflection effectively in their reading processes.

**Repetition:** stresses the need that the participants strongly felt for the need to have repetitive opportunities to read extensively in order to gain language proficiencies.

**Theme 4-Social Interaction:** Social interaction provides examples of their social experiences that enhanced or isolated them from becoming fluent with language and the reading process.
**Experiences:** Experiences points out the types of experiences they perceived as contributing to their decisions to pursue reading.

**Isolation:** Isolation identifies situations where isolation was problematic or motivational for deaf readers within their social, educational, or professional settings.

**Theme 5-Motivation:** Motivation introduces various types of motivational factors that participants felt contributed or inhibited their efforts to read across various types of personal, social, and educational settings.

**Extrinsic:** Extrinsic shows how external factors such as family, spouses, partners, generated some form of motivational response from the participants to be involved in reading.

**Intrinsic:** Intrinsic shows how internalization of needs contributed to their efforts to read as a means of meeting goals they highly valued.

**Self-Determination:** Self-Determination demonstrates how individual self-determination contributes to their efforts to read.

Notes, memos, journal entries, and mind mapping charts were created by the researcher and used to support the analysis and interpretation of data during various stages of research. Examples of these documents can be seen in appendixes C, D, & E. These documents serve to demonstrate how the researcher reflected on the comments made by the participants about their reading experiences as they progressed through various phases of doing, knowing, and learning.

The remainder of this chapter focuses on these themes to discuss their potential meanings, and the thick descriptions provided by the participants. Together these helped clarify for the researcher how these experiences led to specific kinds of behavior to support reading.

**Findings**
There were five significant themes emerging from the data that were labeled as reading, communication, processes, social interaction and motivation. Of the five themes, communication, processes, and reading represent seventy-two percent of the coding incidents. Social interaction and motivation represent twenty-eight percent of the coding events.

For successful deaf readers, the associations they make about their reading and the processes they use to develop their reading skills are linked to their communication experiences. The social interaction and motivation themes also suggest that there are underlying social and motivational factors that contribute to the development of successful deaf readers. Yet, these two themes do not appear to be the initial motivators that encouraged these particular deaf readers to achieve success. There are certain communication needs and processes related to their reading experiences that needed to occur before these two themes become contributory factors.

Each theme explores the thick descriptions derived from the participants to clarify their thematic importance. Some of the thick descriptions also include researcher questions and probes. When this occurs, the participant’s comments appear in plain text and the researcher’s comments in italics to help the reader distinguish between the two during the running commentary.

**Communication**

The communication theme contains three coding categories that comprising one hundred and twenty-two coding events or thirteen percent of the codes identified within the data. The sub-codes are distributed across three topics labeled experience, mode, and access. The access topic contained a slightly higher number of codes where participants often described their need
to acquire information. An exchange between the researcher and Shirley³ helps to clarify the access topic.


That need for information, is that an important part of why you read?
(Nods) Yes.

If you are not reading do you feel you have more trouble getting information (fingerspells information)?
Oh, definitely and I have emails. I do a lot of reading every day for work.

There is a persistent impact on you in different ways now than before that force or require or capture you for reading all day.
Yes.

The need for information becomes pragmatic based on the understanding that it is necessary for a deaf person if they want to stay informed. Henry provides a simple acknowledgement of this.

I think we live in an age where information is so important. Magazines give me a lot of different information that I can read…[and]...Reading… (Pause to reflect)… is a part of my life.

Yet, access is more than the need for information. It is also a conceptual understanding by deaf readers that the experiences they have are related to some form of gain or loss they experience as they strive to acquire information, companionship and knowledge. Without this access there is a sense of separation from others and an effective means of acquiring essential information is needed to gain a fuller life experience. Eve provided insights into this sense of loss and gain.

…when I got to college I was amazed, really enjoyed talking, staying for hours and hours just talking…once you have a taste of access to information then you do not want to just sit at the table nodding your head…missing all that information.

³ Each participant was assigned a pseudonym to protect their identity based on the consent agreement to maintain confidentiality and generate trust between researcher and participants.
In this context access becomes essential to deaf individuals to achieve satisfactory social interaction with others for information beyond what they now perceive as being limited through visual methods alone. Information needs to be readily available to them during family interactions, social events, and educational settings. Still, this particular kind of access does not equally match the levels of information that is easily acquired by other individuals within a hearing society. When these accessibility limitations become transparent, these deaf readers express a strong desire to resolve them. Their awareness of what they are missing overrides the frustrations they have experienced about communication. There is a renewed effort to find more effective ways to communicate with other individuals and to acquire information. Connie expressed what it was like to begin this process of breaking out.

…it [communication] was frustrating…so, reading was my ‘communication’ and when I was isolated by myself I would read. It’s ironic that in my isolation that reading was the outcome. So as I got into reading and made a discovery, then another discovery, and would think to myself…”What!” I didn’t know, I didn’t know that about the world. The things I didn’t know before I started reading.

As greater access, through the act of reading, is fully understood by successful deaf readers, they begin to expand their learning boundaries beyond their early reliance on visual information. From a social constructivist perspective individual development matures over time through interaction with other individuals in social and cultural settings. Vygotsky (1978) proposes that development towards learning and critical thinking is generated within a “zone of proximal development (ZPG). He defined this as ‘the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).
For deaf individuals, the communication isolation that they consistently encounter from birth creates a natural barrier for interaction with other adults or peers. This inhibits the ZPG process by various degrees depending on the levels of communication isolation that each deaf person experiences. The movement from actual to potential development through problem solving, normally achieved through human interaction, now seeks an alternative process. For some deaf people reading becomes the process that supports their ability to expand their ZPG. Reading, in this context, substitutes for the missing human interaction that Vygotsky identifies as an essential catalyst for promoting the maturation development of problem solving skills. Sean describes this new transition towards personal growth.

…the written word is the only way that I understand hearing people, really. Because other than that…interpreters are fine…but I want their words as they are written down. It shows me how they are thinking. It’s like a window into their brains.

At other times access is grounded in a simple need to satisfy their curiosity. Reading becomes a way of addressing that curiosity. Shane identifies his intrinsic need to understand how ‘others’ function in the world differently than his experiences. He perceived reading as a solution to his need for information.

I was curious about how hearing people talked. How they spoke…not easy…so the only way was to read novels. I was more interested in what…in the characters’ talk, the dialogue.

As successful deaf readers make the transition beyond an earlier reliance on visual information, reading is intrinsically accepted as an effective communication method. Although the process is indirect it provides the successful deaf reader with a deeper sense of social interaction, information access, and an expanded capacity to acquire knowledge that is difficult to achieve without reading fluency.
The ability to make this transition depends on their communication experiences and the level of family support they receive during their early childhood years. Sean, for example, had to make a mental leap in order to better understand why reading was essential to his personal development. Sean described this shift in perspective during one of the interview exchanges with the researcher whose comments are represented by italics.

I thought that visual was the way that people communicated. Being able to hear was just a bonus. I realized, no, it was the other way around. Hearing is really the way people communicate, and being visual is the bonus. 

That moment you realized you took a leap?
It hit me. I couldn’t process it enough back then. But now, looking back, I would say that was…the moment I realized I was deaf. I am different. I learned that I would have to develop different strategies to succeed in the hearing world. 

So back then to understand it was reading?
Visual, visually…

So reading was one of your strategies?
Yes, probably the strategy for me to be equal to hearing people.

Successful deaf readers, who discover what reading has to offer, begin to strongly relate their communication success consistently to the reading process. Reading, for these readers, overrides any other communication mode because it is perceived as an easier means of access to information. It becomes their default choice for interacting with the world. Henry expands on this perspective about reading.

Right now I read all the time. At home I will read captions on the TV. Read newspapers and magazines. Sometimes I will read a novel. At work I am reading different things all the time. So I have to tell you that reading is a big part of my life.

Successful deaf readers feel compelled to pursue reading due to their understanding that their communication experiences would otherwise be limited. They perceive other communication modes as providing superficial access and restrictive to their autonomous
choices to learn. Tate provides examples of two separate situations where other communication modes are perceived as lacking depth.

…at home my father was stuck, left out, because he couldn’t sign. He knew a few signs and he always depended on my mother to interpret. If my father wanted to talk to me he would ask my mother to interpret for him…[and]…When there were family reunions, my mother expected…she would put out notepads in different locations expecting the aunts and uncles to write. It was brief. Sit there and talk for long periods…writing back and forth…no, it was brief.

As long as limited communication could be tolerated then the desire to seek alternative means were deferred. Once a successful deaf reader consciously becomes aware of these communication limitations they initiate efforts to bridge these gaps to gain meaningful life experiences. Eve explains where her tolerance for the status quo became unacceptable.

Signing I liked, problem was my family did not really sign, my mother for one…but the rest of the family not, my mother would sign but it was home signs, or fingerspelling. English signs. Never one method…Over and over again, that frustrated me…I didn’t have the patience to wait a long time for her to communicate with me so I told her to go ahead and talk to me.

Her desire to know or understand what was happening in an immediate way became more intense. Rather than accepting these communication limitations her efforts to improve communication become more aggressive. Connie describes a similar event.

If I watched TV I really wanted to understand what they were saying. I would ask my sister if she would mind telling me what they were saying and she would put me off (hated that expression) and say ‘later.’ That would make me very angry. I’d tell her “Come on, I want to know now.” She would wave me off and gesture for me to go away. We would then physically fight over it because I wanted to know.

For successful deaf readers their communication experiences reach the point where, regardless of the difficulties in acquiring reading skills, it pales in comparison to their struggles trying to communicate in other modes. They experience a significant level of dissatisfaction with their current level of communication or, as in Connie’s experiences; their communication
needs are totally ignored. These experiences with limited communication modes are variable and depend on how willing others are to accommodate to their needs. Sometimes it is contingent on how aggressive the deaf individual is about communicating with others. Esther describes her family experiences, as the only deaf person in the family, where access to information involved a variety of communication options. An exchange between the researcher and Esther describes her communication experiences.

*I’m curious, in your family, sign language happened, what about outside the family, was that different? Did you struggle?*

Meaning what? Oh, you mean external?

*In your family you had signs, but outside of the family was that a different feeling?*

What do you mean?

*In the family signing was no problem?*

Right.

*But when you left your family and met different people was that a different feeling?*

Oh, when they were different and we were stuck communicating, that what you mean? No, no, we just wrote back and forth, I was used to that. Understand, inside my family, my brother, sister, parents, we signed. My aunt and uncles did not. So, I was used to writing, being aggressive and writing back and forth with them.

*So, signing and writing, those were the two ways in your family?*

And also I had lip reading training growing up till I was 11 or 12. So I was a good lip reader. That helped too. I used speech, no.

Esther adapted to different communication situations with her family, her extended family and others outside of her family circle. For other deaf readers their communication mode was dependent on specific individual contacts. Two examples involve Sean, as the only deaf person in his family, and Josie, whose sister and parents were deaf. Sean’s communication mode depended on the type of interaction available to him at any given moment.

Interesting. Let me clarify, my parents signed good, but ASL, no. It was called signed English, MCE, something in that range…PSE.\(^4\) Know what I mean? But my godparents,

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\(^4\) Signed English refers to a signing style that follows English syntax. MCE refers to manually coded English developed to modify ASL to follow English grammatical rules. PSE refers to
they signed ASL. That helped. My mother was more English based signing. My grandparents and others fingerspelled, wrote back and forth. And my mother interpreted for me some of the time. So my relationship with my extended family was less and a strong relationship with my parent and all the others so-so. I have some cousins close to my age that fingerspelled good, fast, know what I mean, so we communicated well. We could communicate some that way. But, full use of ASL-like signing fully, none. Just mother.

In Sean’s world his communication mode requirements created a greater demand on his ability to adapt. He found it necessary to constantly shift his communication mode from ASL, to several variations of sign language modified to follow English syntax, to fingerspelling, and to indirectly relying on his mother to interpret for him. His only sense of communication stability in this context was with his mother. It may be the case that reading offers deaf readers stability, and a greater degree of independence. It is a formally structured process where a deaf reader can maintain autonomous control of their communication to improve their life experiences.

Josie, on the other hand, has an inverse experience where her communication mode is a direct visual experience using ASL and contact in other communication modes are of a peripheral nature. For Josie, the rich language environment, within the family, provided sufficient access that overrides the superficial aspects of the communication modes used outside of the family.

In my immediate family, my parents, and my deaf sister, we signed ASL. With my relatives, hearing grandparents, cousins, aunts and uncles we would use speech. Deep conversations…no…superficial. Grandmother would pat me on the head and ask, “How’s school? (Mouths ‘How’s school?’). I would say, “Fine.” She would reply, “Good.” No real, good in-depth discussion. So…superficial.

*How about writing?*

Writing” (Nods affirmatively) Yes, a little bit…a little bit, and lip reading…With my cousins we wrote back and forth some. My cousins would try to speak clearly and I would watch them and catch some that way.

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pidgin signed English which is the mixing of ASL and English grammatical features when two people are communicating with each other from separate language experiences.
Thus, successful deaf readers’ faced issues associated with access and communication modes. These variable experiences were significant enough to create different levels of intrinsic motivation that led to the adoption of reading as an alternative means for accessing information. When that happened it tended to lead to a sense of satisfaction about their personal, social, and educational experiences. It is the level of unpredictability with their communication experiences that spurs successful deaf readers to find alternatives ways of coping. Often these efforts to cope are tied to how they develop particular processes to meet their specific needs.

Processes

Processes relate to how successful deaf readers resolve their communication issues. This theme has three coding categories representing two hundred and twenty-five examples. Twenty-five percent of the codes generated during the data analysis were tied to this thematic area. The sub-codes are labeled strategies, bridging, and interaction. Overall, strategies represented the primary area of focus by the participants.

Strategies

Research focused on the reading process generally recognizes that successful readers use reading strategies to help them effectively read. This is generally true of deaf readers (Banner & Wang, 2011) yet; their use of strategies may not dovetail with the strategies traditionally identified with hearing readers. Also, the range of strategies appears more limited and strategies that they do learn are over utilized during reading that are different from hearing readers (Kelly, Albertini, & Shannon, 2001; Miller, 2009).

The reflective process is one type of strategy that participants often suggested as being important to them. Prior research suggests that this is an integral aspect of critical thinking (Paul & Wang, 2006). Yet, this reflective process appears to have different applications depending on
the type of reading and the degree of difficulty involved in the reading task. John describes one
type of reflective experience.

I like to pace my books I guess...sometimes I will stay on one page reflecting for five
minutes as I read it...read it again and again and visualize what I am reading to make the
connections... take a lot of time thinking so maybe that...so that influences my reading
pace. Often I dwell with my critical reading...with my reading...that tends to be my
good skill to read for analysis...read to understand...I tend to do that.

*Is that where you feel you became a successful deaf reader?*
I guess...I guess I do not hate and I do not love...I guess (Pauses) ...it's just normal to
read.

For John reflecting is more than an abstract process. It also requires the use of
visualization to help interpret the sub-textual meanings. Also, reflection is not an automatic
response to the text. Instead it is a deliberate pacing of his reading and a disciplined approach to
re-reading the text enough to feel he has a sufficient grasp of what he is reading. Connie uses the
reflective process to recognize her level of satisfaction with her reading comprehension.

...if I read through it and sense that I am not understanding then I am not satisfied. Not
being satisfied means that I do not understand it. Obviously I do not understand. That
means that the article is tough to read. I will hold on to it and read other things and come
back to it.

Connie sees the reflective approach as one that requires an intrinsic acknowledgement of
her level of understanding. If she does not feel confident about her understanding of the text
then she allocates additional time away from the text to allow herself to subconsciously work
through her recent reading experience. After an undetermined amount of time has passed Connie
may return to the text, still she recognizes that

...if I see that I am not understanding I have to be willing to let it go. If some
understanding is occurring, that’s fine, I can keep going. Accept that it means that it is
not at my level. Something that I am not ready for and something I may need to go back
to school for it. You know what I mean?
For these deaf readers reflection has multiple uses whereas reflection is more commonly used as an abstract process for interpreting the text to gain possible meanings from what was read. For these participants, reflection helps clarify meanings and at the same time provides a process to evaluate their ability to read, and comprehend specific kinds of texts. It is a method for determining if they need to accept their reading limitations or acquire additional reading skills. Tate approaches the reflective process in a similar manner using a different rationale.

When there is a struggle I don’t want to become upset…so frustrated…I let it go and see one or two days later or the next week or when my energy is up. I read it again and if I discover that it is not hard anymore then I am willing to continue. I think personally that I hate pain. If I get aggravated or start to feel ignorant I don’t want that so I wait. I prefer to do something else and then come back and look at it again. If it’s not hard anymore then I am motivated to keep reading.

Reflection is not only an effort to understand the text. It is also used as a way to evaluate their abilities to successfully read. If that is not seen as feasible within a personally determined time frame then they move on to other reading opportunities.

The participants used strategies to resolve vocabulary where the preference was to avoid use of the dictionary. For some deaf readers their primary approach relied on contextual understanding of the text to mediate their understanding of new vocabulary. These experiences with new vocabulary varied and Esther provides one example of how she approaches new vocabulary that provided positive experiences for her.

…that’s my strategy…understand what I mean? Read, find words, write them down, and find what they mean, how they apply to the sentence then use them again. Now I have started to use that strategy and enjoy it.

For most of the participants the experience has not been enjoyable because the strategies available to them proved to be unsatisfactory. Eve provides a good description of this kind of struggle where her use of suggested strategies broke down.
So I read it and it became very frustrating because there were a lot of vocabulary in there that I did not know or understand. So I said to mother, “I don’t understand this,” and she said, “Why don’t you underline the words you don’t know, as you read one page, then pause, look them up in the dictionary, find out what those words mean, and fit it into what you are reading.” I said, “Fine.” I tried underlining those words but it became very discouraging because it was easier, I told my mother, it would be easier to underline the words I know than those I don’t because the amount of words I didn’t know trumped the amount of words I did know. It feels like that so it was very discouraging, not motivating to me when I have that kind of challenge. I tossed the book out.

Eve’s experience with vocabulary was common for many of the participants although the degree of their difficulty varied. But, dictionary use was often not the primary solution. Henry and John describe their attitude about dictionary use. Henry offers two perspectives and this was his first observation.

…sometimes, before, many times I would ignore reading the whole thing for concept. Now I find myself more interested in the details. The words, making discoveries. If I had to start all over again would I run more to get the dictionary more often? I don’t think so. It’s too much of a hassle.

Even with successful deaf readers, dictionary usage is not seen as an effective tool but when technological influences and access to electronic resources are acknowledged their perspectives shift in a new direction. Below Henry offers his second observation.

What’s cool now, are online dictionaries. Or you can click on the word and it takes you to a definition of what that word means. Technology today, I think, makes reading a lot more fun. When I see a word that I do not see often, I can be curious about what that word means…It’s an immediate process. That keeps up my motivation to read that article or whatever it is I am reading. I think that is something I wish I had when I was a little boy.

A sense of immediacy in accessing word meaning appears to be an appealing choice. John echoes these sentiments about conventional and electronic dictionary use. Although he finds electronic resources more helpful he still emphasizes his confidence in being able to define meaning through contextual inferences of what he is reading. In other words, his preference is to
set aside new vocabulary and keep on reading until the degree of comprehension difficulty can be overcome.

The dictionary…not the thick book, that’s wrong. Instead the I-Phone, using dictionary dot com. If I can figure it out…I’m pretty good at figuring it out…the meaning of everything. If I feel that word can be set aside, then I set it aside or if I feel that I need to tease more out of the word then I will go to the dictionary to look it up.

In these situations, dictionary use is not seen as the best solution. Contextual understanding is trusted, and there is an expressed confidence in being able to simply set aside new vocabulary and trust their ability to understand what they are reading. The availability of time was seen as an important factor that influences their willingness to look up definitions and to read for pleasure. Connie expresses this general sense of how time is seen as a limiting factor for reading.

My reading tends to be the Internet now, email, and research through the Internet…for specific ideas, specific concepts, that’s my standard reading now. But, for longer, and more casual reading…not any more. It’s sad, it’s sad but I do take the time to try.

Technology appears to be a double-edged sword. On one hand, it overwhelms these readers with a variety of informational resources. At the same time, technology provides more incentives to use electronic resources to support reading strategies. Yet, not all of the participants have adopted the use of electronic resources. For many of these deaf readers, the tactile associations they have of holding an actual book, magazine, or newspaper remains their preference.

Another helpful strategy for reading proficiency was related to the amount of reading needed to become a successful reader. Many of the participants advocated for frequent reading and judicious choices of appropriate reading materials. Shirley explains why she believes repetitious reading is important.
Reading at their level or a little above that…a challenging level. You know what I mean? A different level and asking others for help. The more you read the more skilled you become, the better reader you become as the more you read. That’s it.

The participants expressed a high degree of confidence in the idea that successful readers read extensively. If readers will invest the time to read frequently and consistently, then a person can become a successful reader. From this perspective, reading is a skill. Like all skills, it requires repetitive practice, consistency, and effort. Josie reaffirms this perspective on reading frequency and also adds additional thoughts about the process of developing reading fluency.

…just keep reading. Keep on reading, the more that you read then you begin to notice the patterns in language and it becomes easier and easier. I think if you are going to keep reading you have to enjoy it. You have to find ways to like it. Pick a topic that you are motivated about, start with that, to keep you motivated with your reading. If I am doing something I don’t like I won’t stick long with that. I will just push it aside. If it’s something that you like, keep on with it. Pick a topic that you like.

For many of the participants, examples of repetition were identified with enjoyment in reading books based on a series. Connie explains the benefits of this as she describes her experiences with the Nancy Drew series.

Try series, series, my sense is to maybe try series. Already set characters, when you read the characters are already set. The reader knows who and the situational information like with Nancy, Bess, and George I knew their personalities which means I could anticipate subsequent information in the other books but with different stories. This means that the reading is (pauses to reflect) reading is already set on what you know …[and]… Knowing…knowing, but at the same time as on one hand you have what you already know and on the other hand you gain new information and you pull the two together. You put it together so I think what deaf (readers) need is what they already know tied to new information and then putting it together. That information you already know, that’s the series, then a new story, then put it together to make the connections. Through the process they can build skills over time.

Connie’s observation about sequential connections leads to another area where participants frequently acknowledged that their reading process involved pursuing strategies that
enabled them to connect disparate pieces of information into a coherent unit. These strategies moved beyond ordinary reading strategies and at the same time reinforced their ability to have positive reading experiences.

**Bridging**

As they described how they overcame gaps in their knowledge by connecting different bits of information, a metaphor emerged based on bridges. To physically cross over natural barriers such as rivers and canyons, we often rely on bridges. The term ‘bridging’ became an effective metaphor to use for describing this process.

Sean describes this bridging process, at a very basic physical level, where associations were made between information leading to an effective reading process for him. Often these bridging experiences are tied to specific interactions with individuals or environmental settings. One example that he provides was related to his mother.

Mom…she showed pictures, signed to me, and pointed to things. It was her signing and her use of expressions. I think my mom’s signs were so-so, but the key thing was her expressions. It was like the expressions told a story using exaggerated facial expressions to demonstrate feelings. That was really, for me as a young baby, fascinating to watch. It was the use of expressions, then signs, then pictures, and then words. It was all sequentially linked together. That’s how mom taught me to read.

Sean also indicates at a later stage that bridging became more sophisticated for him when he used the bridging process to learn more abstract forms of knowledge.

I learned phonological rules. That helped me learn form. I can’t speak, I don’t speak, but I know how to speak. I can’t speak, I can’t monitor how I speak but I know how to pronounce words. So those phonological rules helped me with the flow, because before I just memorized the shape of the words, but those shapes don’t have flow, so to me the phonological part helped me with the flow. To make reading, (gestures-word after word) become reading (signs reading down paragraphs at a time). You know what I mean?
Finally, Sean conveys another bridging process where he uses visual cueing to help him come to an understanding of how reading contains meanings beyond the definitional level to include emotions and rhythm.

You know, choir, the hymnal book, you know, it has words, and then above the musical bars that display the singing of “Jesus…” That kind of thing helped me to realize that words have flow to it too. I could visually see people articulating the hymns with a certain rhythm. You know church music tends to exaggerate the emphasis of words. So, that helped me to realize that words are not just words but have flow, something…is behind the words and once I understood that it helped me to read. To read, not word for word, but read.

Thus, bridging consists of a variety of concrete and abstract levels that a deaf reader responds to and these various bridging experiences are used to make important associations to identify gaps in their knowledge.

**Interaction**

As the bridging process is utilized, it is supported by various interactions with individuals and reading materials that many of the participants felt were instrumental in their development. With these types of experiences, reading becomes more intimate and personal. Connie describes reading becoming an intensely personal experience because it was satisfying her basic emotional, mental, and psychological needs that were not available to her otherwise.

Books, I felt that became interaction…I felt like I could talk with people through books. Reading…reflecting, taking turns with my thoughts, and the words in the book. Going back and forth with that. The neighbor…writing back and forth with her. I felt a need…I think it’s a basic human need to interact. Reading and writing made that happen to meet that need.

John sees reading as having an interactive component where discussion of what is being read is as important as what was read. He elaborates on this in the following interchange.
My wife and I like to read at the same time, together, so we can discuss the book back and forth, and have conversations about it. We like that…not always but when it happens that’s good when we can agree on a book together and proceed to read it.

The personal interaction with a parent can also be profoundly meaningful and lead to more effective access of the reading process. Josie describes this kind of experience with her mother.

I think with my mom sitting with me, signing with me as we read the books. I was making connections fast. Understanding the sign, it’s equivalent word, and making those connections and just keep going from that point.

With others, the interaction expands beyond an individual setting into a group setting where the perspectives are shared, discussed, and individual meaning becomes multiple meanings. These groups happen in classrooms or at informal group events. Josie describes the various benefits she gained from her book club discussions.

It’s a wonderful group and we’ve read…each person in the group contributes differently…one is good at literary analysis that helps me notice things I would not notice as I read and would overlook. Each person brings up points that add more understanding…each person has unique perspectives that help me from a group discussion to understand the bigger picture and understanding of the book. It just adds to the enjoyment of the book.

Within the topic of interaction there were numerous examples of personal, parental, partner, and spouse interactions that were valued by the participants. Group interaction was also highly valued as it expanded their understanding of text. Another area of interest was how their interaction between languages was beneficial. They felt the opportunity to extensively interact between English and American Sign Language expanded their capacity to critically think about their reading experiences.

John provides a fascinating account of these kinds of experiences where languages are allowed to support learning. In this context John is talking about his experiences reading in
school and points out an exceptional experience he had with a specific teacher. He identified this teacher as being instrumental in expanding his understanding of the purposes behind reading. As he explains the influence of this teacher he provides an overview of the benefits of language interaction.

Anyway, he is “the” teacher who showed a lot of us deaf students that English and ASL—there was a bridge possible between those two, from signing to translating into English...from story to concept...from story to discussion and then converted into a play. Or set all that aside and do a story in sign, stop, then each on their own write, out from what was signed, what happened. Then sign the story more. It was fun, working back and forth between the two it felt like something came together, the ASL and English blended into one way of thinking. The point is we figured out how we could pull the story out and do it as a play. If we did not understand it how could we pull it out to be a play? His idea was that to understand, to fully understand, was through translating into a different form. Some stories we would each individually read a book, then discuss it together, confirming that most of us had read the book. Then we would sign the story again, moving from the act of reading to expression and then visualization and then make connections.

Strategy, bridging, and social interaction became integrated into processes that enable some deaf people to nurture their abilities to become successful readers. They overcame what is perceived as an insurmountable barrier for many deaf readers. Up to this point we have seen how communication and process experiences set the stage for deaf readers. As it can be seen from the various examples, these communication experiences and subsequent processes cannot be neatly predicted for each deaf person. Each deaf person has experiences that vary as they progress through their reading experiences. Also, as we understand these experiences better they set the stage for providing specific communication and process experiences that will create more opportunities for positive reading experiences. What these reading experiences can look like will be explored in the reading theme.

Reading
The reading theme contains six coding categories representing a total of three hundred and fourteen codes. Out of the overall data collected, this represents thirty-four percent of the codes found within the data. The topics associated with reading experiences and reading transitions represent one hundred and eighty-seven code examples. Four additional codes cover topics related to reading associations, inferences used for critical thinking, repetition, and reflection.

Experiences

When the participants described their reading experiences they called attention to specific external experiences that extrinsically motivated them to read. For example, Shane perceived reading as an unavoidable event.

Before there was no technology, but nowadays there is a lot of teacher’s aids to help with reading, projectors, and so forth, but before there was nothing. Just reading.

For other participants reading was the primary means for acquiring information about the world around them. To gain knowledge about their lived experiences, it was necessary to read. This knowledge was otherwise unattainable by other means. Sean explains why reading fulfills this need.

Really, I found books as the way I could understand the world more because I can’t hear. How do I get information about hearing people? How and what do they think like, so it’s through books. For some reason I realized that from a young age so that gave me a lot of advantages because I realized they were all talking. I was incompetent to understand their meaning. I needed this (points to his hand) to make up for that information (shows sign for ‘book’).

When Sean realizes that there are others in his world that are not like him he wants to understand what it is that is different. Shane also expressed this desire to understand spoken dialogue that was not visually available to him by reading.
...one big thing that I was curious about was how hearing people talked. How they spoke...not easy...so the only way was to read novels. I was more interested in what...in the characters’ talk...the dialogue. Action, I didn’t care about that and would skim through that, through the action parts to get to the characters when they talked. I was fascinated with how hearing people talked.

Not all reading experiences are externally motivated nor based on need. At times it serves a basic psychological need as described by Eve.

...a lot of my memories are not clear. I remember vague things like when I was young...I can’t remember which age, very young, when I was three, four or five, I can’t remember exactly, my mother—the two of us both in bed—would every night read books together...

Reading becomes a direct pathway towards personal interactions with family, teachers, and social experiences with friends or extended family. These experiences can be said to be similar for all readers, but there is one significant difference. Hearing readers can choose reading as an alternative method to acquire information and knowledge. It is essentially an option among many for them. For deaf readers, reading is their primary source of access to these kinds of experiences. Additionally, reading provides a means of efficient communication otherwise absent for them. It provides a sense of interaction with the world and for these reasons participants perceived reading as an essential link to the world.

Initially the reading experience appears to involve an active engagement with the visual elements contained within printed materials. These visual items are seen as important early props for facilitating reading comprehension. Connie describes an example of this kind of reading experience when she was nine years old.

The Nancy Drew books had some pictures interspersed in the books. That helped me anticipate what was going on throughout the book. It was those books where I became engrossed in but it just happened that I became engrossed, but after that I didn’t need pictures anymore, but I liked that. It was cool to have the visuals to check back and forth with the words. I enjoyed it. That...I remember that when I was nine.
Josie provides another account of how illustrations were an influential factor in her early reading.

Also, the illustrations, by Ludwig Bemelmans, he illustrated that book and his drawings were…I could feel emotions from his drawings…the nuns worrying about her…the way the images were angled. And it was Paris. I was fascinated with the pictures and also the story and the character.

The experience of being deaf naturally promotes a visual orientation to the world. Until alternative ways are discovered to access meaning from their world, they will look to visual cues as their primary source of information. Conversely, as they begin to associate visual information with abstract or symbolic systems such as reading, they will begin to make specific transitions that will expand their perceptual horizon. This process of expansion is associated with specific kinds of transitions.

Transitions

As their reading experiences become more advanced, there are a variety of transitions made to improve their reading success. These transitions appear across a variety of levels beginning with the mechanical processes associated with reading. Sean provides one example of how the mechanical process was experienced as he was growing up.

…it was more of a process. Learning how the mechanical… how it just does it automatically. Just looking around I get it, I just look at it in a wide angle. I can look at a page and scan it and get the main point right away. Wide-angle view, before I read one word at a time. Now I just read the page fluidly. Practice…years and years of experience.  
So just constant reading? Live it, learn it, and an ongoing process. People who don’t probably don’t improve their reading. To me reading is one of the best ways for deaf people to learn about the world. Hearing people don’t sign, so what do you do? Read.

As these deaf readers progress beyond mechanical skills to gain automaticity in their reading, they also begin to make a transition beyond basic purposes of reading. Early on the
psychological need is to acquire information and to experience a kind of substitute interaction with the world autonomously controlled. Also, at some point they make another transition for reading beyond these basic needs. Connie describes this kind of transition during her high school years.

…it was in high school when I realized that reading was not that simple. Reading to learn. Reading to gain pleasure. Reading to reflect. Different reasons for reading. That was the new realization and before that I read to enjoy myself. Now I have different approaches to my reading. Different things but reading was to enjoy and also to learn. Those two were the primary reasons. Then later a shift to learning to analyze, to explore, and to interpret…those thing added different levels to reading. In high school that is where it started.

Sometimes the transition experiences are long-term and their reading experiences become transparent to them at a later stage in their reading development. Shane shared an experience of how his awareness of reading skills came to him late in his career.

I wondered to myself, “Am I really that good? Meaning that through all of the reading I had developed an inner kind of rhythm internally and the other day I talked with ________, talking about a poem and he asked me if I had written many poems and I replied no, but I had started to develop a sense of rhythm by reading and another reason why I like reading is that you develop that sense of rhythm with the words.

A constant effort to read appears to support a sense of language as being more than words. Perceptions emerge of words as containing meaning, rhythm, and prosody. These examples indicate that for many successful deaf readers their reading experiences develop over a long period of time. Often they are not immediately aware that they are making this kind of progress and when it becomes obvious to them they often marvel that they were able to achieve it. While most of the participants could not specify a specific moment when they were conscious of being able to read more fluently, there were some experiences where the moment of transition
was quite obvious to them. A most poignant example of this comes from Tate as he reviews a pivotal moment in his reading development.

My mother tended to invent games for us: the four or five of us. One day I got my mother’s attention and told her I was bored and I wanted a new game. But she was busy, trying to bake a cake, mixing the batter. She said, “No, I don’t have time.” I was stubborn wanting a new game so my mother grabbed and gave me a book called “Beautiful Joe.” I opened up the book and read the first sentence, “My name is Beautiful Joe and I am a cur.” I noticed the new word and asked my mother what it meant. She gave me the children’s dictionary. I remember from school learning how to use the dictionary. So I looked for the word and found ‘cur’ and looked at the definition, which was ‘ugly dog.’ That was the children’s dictionary definition, ‘ugly dog’ and my mother told me to substitute the definition for the word ‘cur’ and reverse the order of the sentence. So, “My name is Beautiful Joe and I am a cur” became “I am an ugly dog named Beautiful Joe.” I understood and then after that I would read more and get stuck on a word I would look it up in the dictionary and find the meaning. Then I would substitute the definition for that word and that became a game for me. I started to enjoy reading and that was about age 10. I really became a bookworm.

This beautifully narrated story reveals several things about Tate’s transition. Although he had been taught to use a dictionary, it appears he had not been taught to strategically use a dictionary. His mother’s prompting provided a profound awakening for him and enabled the dictionary to become a useful tool rather than just a book full of definitions. He was also introduced to the idea that you could make a ‘game’ out of language and actually enjoy the experience of reading. This was likely a key moment in his reading development.

Another example of this kind of late awakening comes from Connie where she describes two pivotal moments in her reading experience. First, she notes where her ability to associate a picture with a word provided new insights for understanding words.

For example, the car (uses ‘3’ hand shape representing the ASL classifier\(^5\) to show a car making a sharp turn) and (fingerspells ‘swerved’) (Shows signed action again) There was

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\(^5\) For reader clarification, an ASL classifier is a class of predicates based on a handshape linked to a location, orientation, movement and nonmanual signals to form a predicate. As these handshapes are frequently used as a classifier, signers automatically think of a particular
a picture, a picture in the book and the word ‘swerved.’ Looking back and forth between the picture and the word it became clear. That was the first word I learned. Swerve, oh cool! I started to make those kinds of associations, one after another. After that I looked at words and searched for the context clues.

Do you happen to remember anything specific that helped you become successful with your reading? Any...
I’m not sure…

For example, when you were 9...Nancy Drew where you became engrossed in reading. Before that did you struggle to read? Have a motivation to read?
I don’t remember.
Don’t remember?
It’s a blank before that. Nothing, until that particular moment when I picked up the book (Nancy Drew reference). “Swerve”, discovering that word, that I could understand what I was reading and what I can learn.

A profound transition occurs for Connie when she is nine years old. At that moment she is able to make critical associations of the English word, ‘swerve,’ the illustration of the car swerving, and the action of an ASL classifier (the hand shape ‘3’) showing the swerving movement of a car in sign language. It is these types of transitions that successful deaf readers identify as being instrumental in their reading development as they gradually work through processes that enable them to conceptualize what they are reading more effectively. This leads them to the realization of what they need to make effective associations in order to successfully read.

Associations

Successful deaf readers often mentioned the importance of making associations within their reading experiences. Esther describes how her mother helped her with associations during one of the interview interchanges.
When you described that your mother was pointing to things, what happened there? What was that (pointing action) that mother was pointing to? What does that mean exactly?
(Smiles, puts one hand up, palms facing up, unable to reply)
pointing to what, pictures, word?
Pictures, words, there would be a sign, know what I mean? Point to a picture, point to a word. Also, my mother would tend to do a sentence, then she would sign it or she would tie the sentence to a picture and then I would make the association…Like my mother would go to the store and point out an apple so I would make the connection with the word, she would point to different references like that and that would also help me with my reading too.

At times associations went beyond basic references between objects and words. Making these associations meant comprehending that objects were linked in some way to the words being read. Henry makes this distinction when he talks about the purposes for reading.

Reading for comprehension.
How?
…to analyze he information, for example, in math class we were expected to read the word problems, analyze them, and answer them. Always. In science class we were expected to read all the textbooks and not function from worksheets that the teacher gave us. No, we worked with the textbooks and that was reading for analysis and problem solving. Literature class was reading for comprehension and discussion.

Associations have been expanded to include the tasks expected of a reader. There are other associative actions that successful deaf readers take on as they progress through their reading experiences. Shirley talks about making associations about reading.

I remember when I was young I would take the train to school, commuting to school using public transportation. I would need to take the train all the way and then transfer to the bus. Anyway, I would often see college students with textbooks, very thick books. I would see them highlighting with the yellow markers. Back then they did not have different colors. I envied that and so I got a book and I pretended to be highlighting…I just acted that out and it made me feel good, more like them…I was trying to keep up with them. Trying to copy their mannerism.
Associations carry multiple purposes for these deaf readers. It connected the dots between the visual world of objects and the abstract world of words. It connected them to the specific tasks that reading required of them and it also connected them to the act of reading and the expectations that came with that process. As these associations were understood and applied it led to the use of inferences to help them make sense of the reading process.

Inferences

Once these successful readers became actively involved in their reading and developed their associative skills, they began to infer meaning from their reading in more sophisticated ways. How they went about it was related to their lived experiences. For example, Josie found it important to find some sense of relatedness in her reading process.

...as I am reading a story I will keep in parallel something that has happened in my life that I feel is related and helps make a connection...make connections to what I am reading, and how it applies to real life, the everyday life. Making those connections (nods to herself) it keeps me...if I read and don’t make connections then it means nothing to me...I find meaning in what I read.

Josie relied on her personal life to find ways to infer meaning during her reading process. John indicated that he found the ability to make inferences in a different manner using a bilingual process. This seemed to offer him a direct means to infer meaning from his textual experiences. He describes an early educational experience where he was forced to stay within a monolingual context. It felt confining to him and he found a break through by using an inter-language process that permitted him to develop co-mapping approaches. One language overlaid over the other allowed him to build upon the complexities he encounters with reading.

In the other classes, now it is English, drills over and over, which became narrower in focus. It was less painful when sign language was used to make the connections. I guess when language, the going back and forth between languages happens, as each area blossoms, later it comes together and understanding occurs (Points to space on his left hand with a strong emphasis). This on the other hand becomes an absolute focus on one
language (Emphasizes ‘English’) trying to strongly encourage understanding from one direction, while (Points to space on his right hand to emphasize ‘ASL’) helps get us to the, “Oh!”

To make these inferences there is a need for clear points of reference before it is possible to make these mental leaps towards a deeper understanding of reading. Sean sees his mental leap as being supported through the use of associations that are mentally and visually connected. It is the fusing together of these abstract and concrete boundaries that seems to help.

There was some kind of leap in my brain. From signs, my mom’s signs, for example ‘apple,’ seeing the printed word, it actually means the same, triggered some kind of mental leap. Once I understood that those shapes on the printed page, ‘a-p-p-l-e.’ means the same thing as the idea of a real apple, tying all those different elements together. Once I understood that the rest of the process was easy. But how did I get to that point? It was like a light bulb came on, strange.

The ability to use inferences also seems tied to other physical and mental experiences that successful deaf readers have used in different contexts. Sometimes how they dealt with these diverse experiences are merged into the reading experience to develop ways of finding meaning. Connie compares her experiences with TV, before the age of captioning, where she had to infer meaning through guesswork with how she achieved early reading inferences.

As I watched TV I had to watch and repeatedly guess the context of what they were doing and make sense of it. Reading was the same way. I would know some of the words and then a new word would show up and I had to figure out how to make sense of it. Sometimes I would run and get the dictionary to find the definition and then look back and work out making sense of the words. That habit has stayed with me the rest of my life.

Connie later acknowledged the limitations of this approach for making inferences that were meaningful. She went on to identify of a later stage in her life where her reading became more abstract orientated. She recognized her need to prepare and allocate sufficient time to successfully develop logical inferences.
My thinking with my reading shifted. I began to read between the lines. Before it was just the story and vocabulary. The story was enjoyable. It kept me busy but now the story is good but also what is the meaning behind the story? It means what? So that realization that there is meaning behind the words. Sometimes when I have heavy reading the first thing I do is to prepare. It’s a different mindset. When I know it is heavy reading I know I have to get myself ready for that. Go get the dictionary and set it near me. Tell others that I need a lot of time, like two to three hours. Not like 30 minutes and a quick read. Even if it is only two or three pages I anticipate that it will take a long time to analyze. That process of analysis requires more time.

**Repetition**

Transitions, associations, and inferences require time and for these successful deaf readers it also required preparation and repetition. Still, repetition is much more than a redundant action. Repeated reading of specific textual materials is meaningful to successful deaf readers. They have come to believe that the repetitive act of reading provided them with a successful transition to reading fluency. Often constant, repetitive reading was emphasized, with repetition seen as a means of reinforcing their reading skills that are not accessible in any other way. Josie strongly emphasized this as being a critical component in her reading success.

For me the act of reading, reading, reading, reading, helped me to see patterns in language I don’t think I really know the rules of grammar but seeing the patterns I became integrated into the language and it came naturally for me.

To be a good reader certain expectations have to be met and Henry outlines those expectations based on what that he saw as the primary contributors to his success.

I think…you often hear people say, ‘to be able to read you have to read, read, and read.” Read. I guess from my early years I was persistently reading. That became the big thing in my toolbox and I have to say that I came from a deaf family. That could have been the bridge from ASL to English. Working back and forth between those two languages. My mother and father maybe helped me to understand what I was reading. Or communication was always available so I could repeatedly ask questions all the time I think, ‘all of the above.’ That was what helped me to become a good reader.
For other participants repetition was tied to a habit-forming action to promote reading outcomes for them. Also, for some participants reading is not limited to text. It was also a visual experience that is equally valued in the act of reading. Tate describes how the advice of one of his teachers influenced him to develop both reading and visual habits to reinforce his reading experiences.

He encouraged us to read newspapers or magazines for five minutes everyday. That way you can pick up new words, maybe new slang, new information to help keep up with reading…Another one was to go and see storytellers. When they wonder where he got that story and discover it came from a book then they may be willing to read it or the storyteller does not finish the story and let’s them finish it by reading the story.

Connie felt reading repetition involved the use of serial books because it reduces one part of the struggle with reading. A certain writer, a certain series, a certain style creates a kind of comfort zone where the reader can relax. This enables them to more efficiently develop meaning out of their reading on multiple levels.

…you keep working back to make connections to build sequential types of support. That I suspect…that I encourage deaf readers to use serial books…yes, serial books.

Repetition develops reading habits and exposes the deaf reader to new vocabulary, new styles of writing, and keeps them in constant interaction with reading. From this repetition comes the beginning of a sense of prosody that cannot be acquired as effectively by any other means. It gradually introduces a sensory recognition of language patterns and word usage in specific contexts that expands their horizons. As they become comfortable with reading, reflective engagement becomes a part of their reading process.

Reflection

Reflection, as explained by the participants, involves a decision making process related to the kinds of reading materials that they choose to focus on. Time is seen as a contributing
factor when they consider how much time to allocate for reading. It is also based on a situational perspective at each decision point in their personal, professional, and academic lives. For some, the primary concern is to identify what kinds of books will satisfy their intrinsic needs and these needs will change over time. The challenge for these deaf readers involved finding a satisfactory approach to making those decisions. For that reason, there is an additional reflective process that is pragmatic. John sees this as a process of working towards understanding using a formal system of analysis.

Knowledge, everything that you know is achieved when you understand. So, how do you understand? You have to analyze and think. Once you receive or come to understand (Uses ASL, ‘OIC’) that skill (Repeats ASL, ‘OIC’) things change and maybe are easier.

The process of finding a system that supports good choices about their reading can be frustrating. It poses challenges, and some participants described using a trial and error process to discover satisfactory solutions for their needs. Eve describes her trial and error in this way.

…and also, in the beginning it… a little bit… sucked… how to buy a book, how I learn if I would like it before I would read or buy it. So before I would look at the title and buy based on that. But later I realized I would have to look through a few pages to see if I would like the writing style. That was important to me, the author’s style of writing. Content in the book, make sure it fits what I envisioned from the book jacket, and then I would make a decision…

The degree of pre-screening varies with each successful deaf reader and is influenced by his or her personalities, motivations, and interests. Tate provides an example of a more systematic approach to this reflective pre-screening process.

Okay, first I don’t start with reading. First I will look at the title, look over the table of contents, page through the book, look at the index pages. Sometimes I look back at the introduction paragraph to see if that gives me a hint of what the book is about and sometimes I look at the ending conclusion… (Smiling) …the summary… if it is a research paper or an essay then I tend to do that. For the book club, I will just look over the book to get an idea and warm up. Then I will read slowly the first few paragraphs to get a
sense of what will happen later in the book. If I catch the bait, then I will continue to read on from there.

For successful deaf readers there are at least two kinds of reflective interaction with reading. One involves developing a process to evaluate what they need to read. The other reflective behavior involves decisions about how much reading, what kind of reading, and for what purposes. As they work through these processes, they are influenced by particular social experiences. They will need to mediate these social experiences, or face possible isolation that may ultimately affect their reading successes.

Social Interaction

The social theme revealed one hundred and seven coding events representing twelve percent of the total coding events identified during data analysis. Two topics emerged during the analysis labeled social experiences and isolation. The social theme reflects situations where either the social experience was enriching, or isolating depending on individual choices made regarding each social event.

Social Experiences

What these deaf readers addressed was the underlying tension that resides, within their social experiences, that influences their efforts to access information. Tate describes a classic description of this kind of social experience within a family context.

If they were talking and we didn’t get it, we would ask mother, and she would give us a brief summary. Or, “Never mind, never mind, never mind. Later”…That was the way it was.

This represents a frequent type of social experience for a deaf person that is frustrating because these social experiences limited their access to information. Or worse, they are not allowed to participate at all, which produces a more severe sense of isolation. When faced with
these kinds of social experiences, an underlying motivation emerges to find alternative ways to access information using meaningful dialog with others to gain autonomy for themselves.

Connie provides an example of her effort to develop new pathways through the use of a reading process.

I wanted friends, interaction…I needed that interaction…it was a need. Writing back and forth was one way with the neighbor. Books, I felt that became interaction. I felt like I could talk with people through books. Reading…reflecting, and taking turns with my thoughts and the words in the book. Going back and forth with that. The neighbor…writing back and forth with her. I felt a need…I think it’s a basic human need to interact. Reading and writing made that happen to meet that need.

It may seem odd to think of reading as a way of talking with people. Still, it is often the only effective means of interacting with others even though it occurs indirectly through text. For hearing people there are multiple avenues of access to information and opportunities to interact with others. For the successful deaf reader, reading becomes an enriching experience that promotes the creation of their inner voice. Vygotsky identifies this developmental step as being essential for language and thought (Vygotsky, 1986).

Deaf readers’ have social experiences that are often related to a continuous struggle to understand how they ‘fit’ in the world grounded through a visual orientation. From within family units, social groups, and various educational settings in which they are placed, their identity is tied to the context of their deafness. For the deaf person, their identity, as a deaf person, is not as transparent. Sean reflects on this kind of social experience regarding identity when he was a young child.

And I don’t think at the time I realized I was deaf. Not for a long time even though I knew that my mom and dad were different than me. I remember when I was about four or five my mom was working out in the garden and she happened to have her back to me. I signed, ‘mom’ to her several times to get her attention and she did not turn to look at me. I realized something and tried using my voice, voicing ‘mom.’ I mean it was not that clearly said but I tried to voice something like that and mom turned to look at me. I
saw that and at that moment I probably realized I was deaf. THAT was the moment where I understood that hearing people used their ears and not their eyes.

Sean is recognizing an essential fact about himself that prompts him to use alternative ways to interact with the world. He now perceives himself as being different and not his parents. He now faces a reshaped world much different from the visual perceptions he had relied upon prior to this cognitive awakening. This forces a reconciliation of concrete and abstract understandings that they experience. When and to what extent they will begin to pursue resolution, of a now altered reality, is variable and difficult to predict. Sean tries to offer an explanation for these kinds of experiences.

…it’s like (thinks a moment) the brain has holes. I compare it to Swiss Cheese. If you don’t have enough language development by age three or five it’s like you build (in the brain) blocks but there are holes interspersed. It’s like you catch a word, then another word and you know there is something that connects the two together but you are not sure what. So you store away the two words, but a ‘hole’ remains between the two, creates a gap in between. So if you create a mind full of those blocks without the connections it becomes Swiss cheese. I’ve met some wonderful, smart deaf people who have that kind of brain. When I try to explain things, they will look at you funny, they will understand the words that I give them but they don’t understand the concepts behind those words. So I have to go back and break it all down and explain it again. I will rephrase, explain from different perspectives, until they finally get it.

Using the Swiss cheese analogy, Sean is suggesting that there are social experiences that contain cognitive linguistic gaps. Sean’s realization that he has had his social world totally misaligned enables him to begin the process of filling those cognitive gaps and as a result he makes a mental leap.

Efficient reading is not just reading word for word. It is an interactive process between the reader and the text to comprehend and find relevancy based on their understanding of the world, that is socially developed one experience at a time. For most deaf readers they may lack sufficient schemas to make sense of their world and their reading (Rumelhart, 1980). As a result,
the necessary steps needed to resolve their reading issues will require time to socially, culturally, and educationally develop for deaf readers. For some deaf readers, their social isolation appears to be addressed either reactively or proactively through a conscious choice to read.

Isolation

Isolating experiences are not unique to reading for deaf individuals. From birth, deaf people are dealing with multiple types of isolation that for many remain unresolved. In some situations, isolation becomes severe enough that it generates a ‘survival’ mode response. When Esther talked about her experiences with reading, she brought up two contrasting life experiences. Her primary experience was one of being surrounded by books. The second experience is associated with her personal health issues, which led to increased isolation while she was hospitalized. As a result she became more immersed in reading.

My family was books. I grew up reading. Books surrounded me. Different books. I had access to books. For example, I looked at pictures in books when I was a baby. Always books, all around me, always…[then]…I got very sick. I was sick frequently. So while I am there, I had nothing else to do. Had to just lay there so I became immersed in reading.

Being restricted, in this case, to a hospital bed increased opportunities for Esther to become an active reader. Her frequent trips to the hospital caused reading to become a primary activity in her life. Isolation, instead of being a negative factor, creates opportunities to read that would not normally be considered. John describes an isolating event that promoted his reading.

I remember strongly one period of my life, nearly a month and a half when I graduated at age 17, that summer where I ‘moved’ but actually went to Hawaii for a month and a half where my mother was living… I had all the time in the world. I read a lot. I enjoyed that, going to the beach and when I was done and satisfied with that I would go home and grab a book and lie down and read taking my time. I would finish one book in one or two days. That’s my youngest memory of me sitting there and reading.

John, when he experienced the luxury of having ‘all the time in the world,’ became invested in the reading process. It became an enjoyable experience rather than an obligation or
educational requirement. This experience of social isolation was different from his normal daily routine. It led to a personal discovery that reading can be a positive experience that reduces his isolation. Though, isolation is not always associated with a specific event it can be accumulative. Through various life experiences this can lead the deaf reader in different directions. For example, Shane experienced two types of isolating events.

…when I was five…during that time period there was no captioning, no interpreting services so my only source of information came from books. So as I was growing up I read a lot…

Shane was living in an era where society had not yet acquired the legal obligation to accommodate for his individual needs. The other isolating experiences come from his family environment.

I grew up in a Chinese family and often…I could talk a little bit of Chinese…simple words here and there and there was not much communication among my family. Even with my brothers among themselves. So we invented some home signs…hand signaling gestures and not much deep communication or writing back and forth…none. No writing until I became older when my father and I would sit down and have a talk. We would get paper and write to each other…But, for my mother it was a different situation…my mother would tell my brother, speaking in Chinese, then my brother would write to me, then I would write back to my brother and he would speak in Chinese back to mother. I would write in English and my brother would translate into Chinese and speak to my mother.

Shane found himself isolated from the world and concurrently he found himself to be equally or even more isolated within his family. With experiences such as these, some deaf individuals, to satisfy a basic human need, will immediately seek an alternative method. For Shane, it was reading and writing that provided him with the satisfaction he needed socially and psychologically.

These four themes converge to demonstrate some of the situational factors that prompt a deaf person to seek alternative ways to find human interaction, acquire information, and
knowledge to support their life experiences. Each of these thematic areas, by themselves, does not automatically activate a unified response. There is a fifth theme associated with motivation that may support the necessary interaction between these thematic areas that compel some deaf individuals to actively engage in reading. However, motivation is a construct that is associated with complex social, cultural, and psychological processes.

Motivation

The motivation theme consists of one hundred and forty-six coding events and represents sixteen percent of the total coding events documented during the data analysis. The coding pattern is grouped into several areas labeled extrinsic, intrinsic motivation, and self-determination behavior.

According to Self-Determination Theory (SDT) motivation is driven by an individual’s desire to satisfy their basic social, physical, and psychological needs (Deci & Ryan, 2000). SDT proposes that there are several types of motivation with the first two, extrinsic and intrinsic motivation, coming into play almost immediately. Depending on individual responses, the integration of these two types of motivation may lead to either self-determination behaviors to satisfy their needs or lead to amotivation behaviors. Ryan and Deci define amotivation as “the state of lacking the intention to act…they do not act at all or they act passively” (2002, p. 17). In other words, they do not indicate an interest in initiating behavior to produce any form of expected outcomes for themselves. Instead, they make choices not to achieve specific outcomes, contributing to a psychological state similar to learned helplessness (Abramson, Seligman, & Teasdale, 1978; Vallerand & Ratelle, 2002).

In addition to these various motivational influences, it appears that an absence or availability of time promotes or inhibits individual efforts to be motivated. The four themes
consisting of communication, processes, reading, and social interaction are parts of an on-going reading experiences for these deaf readers. The motivation theme, on the other hand, may serve as a catalyst to create the chain-reaction needed between these themes to promote the development of a successful deaf reader.

**Extrinsic Motivation**

During the interview sessions, the researcher noticed frequent references by participants to the importance of family interventions as being an instrumental factor in their eventual success. What emerged during the analysis and coding phases provided further insight into these perceptions about their family relationships. They emphasized the importance of family in spite of the acknowledged difficulties they had communicating and socially interacting with their family members.

Generally speaking, medical interventions serve as the primary social focus for deaf people. These medical interventions involve early hearing loss detection programs, cochlear implant surgery, audiological assessments, hearing aid recommendations, and speech therapy. It is only later in their development that the focus shifts to educational interventions. Yet, intervention, at the family level, may not be as heavily emphasized to benefit the early childhood development of deaf children.

Esther confirms this sense of family importance when asked whom she identified as most influential to her. She identified her mother as being the influential person who promoted her reading. Esther also identified her siblings as being contributory factors related to her reading development. At other times the extrinsic influence of family was related to family expectations or values. For example, Eve acknowledges the importance of family expectations.
Another thing about peers and my point of view…my family is very driven by success and ambition. We don’t settle for less. There are expectations within our family. We do our very best and anything less…was not acceptable.

Eve also brings up another personal influence that occurs later in her life involving the influence of a significant partner on her reading habits.

I think I should thank my former partner who introduced me to books…loved going to bookstores. I never went to bookstores very much, but after I was in that relationship I went to the bookstores frequently, all the time.

Another example of family influence is provided by Connie who credits one of her sisters as being influential to her educational development.

My older sister…she could gesture and fingerspell. She was the one who helped me the most with my homework, my reading, and assignments by providing clear explanations so I could understand. My mother had to work; we were ‘latch-key’ children. So my sister taught and helped clarify.

Sometimes, family influences were based on external pressures where the family challenged them to have higher personal expectations. This is an important observation because sometimes family, teachers, and others tend to accept the efforts of deaf individuals as being ‘good enough.’ This could be a contributing factor that explains why many deaf individuals fail or succeed in their social and educational environments. Josie describes a moment, during her early high school years, where she was challenged to do better.

…my stepmom looked at me and said, “you can do better than this, this is not good enough. You’re smart, come on!” She noticed that my study habits were no good (Uses ASL sign for ‘N-G’). I’d call friends over to the house. I would watch TV while at the same time I am doing my homework. My stepmom said no to the friends and to the TV.

Sometimes other extrinsic influences occurred from outside of the family unit, but they were not as frequently mentioned. There were certain teachers, educational activities, and
cultural events that they identified as areas where they received encouragement. Shane outlines some of these extrinsic influences.

One thing…the school has some teachers there who encouraged me. And there used to be story telling and literary societies, which will influence you to like stories…not any specific person, no, but as I said…the teacher’s encouragement. They knew I was a little bit smarter than the other kids. They could see something in me and encouraged me to read.

For the most part successful deaf readers seemed to place a greater weight on the influence of family members. Family supported them by taking the time to read with them, to challenge them, and to establish levels of expectations. These qualities seem to be an important factor, for some deaf readers, which are in place prior to their arrival in an educational setting. It may be that this early educational support comes from the fact that these deaf individuals stood out from the other deaf children to the extent that they received preferential attention. Deaf children who have not experienced the type of family interventions that these successful deaf readers identified may not receive the same kind of attention from educators once they arrive in an educational setting. It may be an interesting topic worth exploring with future research.

Still, even when extrinsic encouragement is made, at whatever development stage in their life, individuals may choose not to respond. This is because external influence can only be sustained for limited periods of time. Individuals will respond, at some point, to the external influence or avoid it. To benefit from an extrinsic experience it is important that intrinsic motivation comes into play. When this occurs it will possibly encourage specific behaviors that can lead to self-determination as the deaf reader begins to relate to specific interests and the goals they generate for their own benefit.
Intrinsic Motivation

The internalization of extrinsic influences forms part of the process that enables an individual to respond to their psychological needs. This process of internalization can happen through three processes involving introjection, identification, and intrinsic motivation. Introjection occurs when the external influences are internalized but the external values are not accepted as one’s own. This may occur because there are perceived as a form of social pressure to conform to certain social values. If the external influences are accepted as their own values these values become opportunities for the individual to internalize them. When the external influence is seen as rewarding, or highly valued among their peers or social groups, they are perceived as intrinsically motivating and lead to effective self-regulation behaviors (Koester & Losier, 2002).

One type of external experience that these deaf readers identified with was games. There were instances where participation in a game provided rewarding experiences that became intrinsically satisfying. Esther’s early exposure to computers brought her into contact with language software based on a game structure. This sustained her interest in the reading process.

I didn’t have TV but I grew up with computers, born with them, right there ready for me. So they had a program called “Reading with Rabbit.” Something like that. So if you read then you could print this certificate. So that’s where I started to become fascinated because of the game, the computer had words and you had to guess what exactly what it means then when I made it, it would print out a certificate.

Esther’s experience reflects back to Tate’s earlier story explaining the game-like experiences he had when his mother encouraged him to use the dictionary, not only find the definition, but to substitute and rearrange the sentence to acquire new information. Tate also experienced this ‘game’ influence later when he enrolled in college. He explains how the teachers teaching strategies helped him see the analytical process of reading as a kind of game.
They taught me what to look for while I was reading. Not just read the plot but catch the symbols, satire, how writers arrange their chapters, the beginning and endings…I began to enjoy that, it was a game, a game again, a game for me.

The appeal of games is motivating and calls attention to the need to provide strategies. As individuals understand the benefits of using strategy that awareness transfers to their reading and makes their reading experience appealing. Deaf readers find the reading process already daunting due to the lack of auditory advantages that hearing readers have and rely upon to develop language competencies. John talked about his need to experience words that are relevant to him. He wanted to read, not because it was proper, but because it is useful to him.

I would decide the words, the kind of words that I wanted to learn. “Quarter please.” Why, because of the pinball games I wanted to play…so I wanted to be able to approach different activities and easily speak for my needs…a tool to have available for my needs, the other things taught to me, fine (Makes a face indicating “tolerating’)…fine, I accepted that. But my words too…

John does not see reading or communicating with others as a passive act. For him, it is interactive and he wanted to be an active participant in the process. Self-worth plays an active part to promote intrinsic motivation (Hodgins & Knee, 2002) and this seems to influence the choices deaf readers make for the types of reading they initially take on. It can be in the specific ways they become aware, which “involves a constant stream of experience including perceptual, cognitive, emotional, and social information…[that]…constantly change as novel challenges and experiences arise” (Hodgins & Knee, 2002, p. 88).

A novel experience can be when a successful deaf reader identifies with the fictional characters that have characteristics they see in themselves. It can spark a continued interest in reading due to their identification with a character or a specific story. Josie talks about such an experience she had at school.
…they had a small library and one book that I would consistently take out of the library was the same book, “Madeline.” Oh, that was my favorite book. Oh, for a few reasons. The main character in the book was named Madeline. She was the smallest person in her class and I am a small person. She was spunky and a leader. I feel that I am the same as that. I had that role with my class. So I felt a strong bond with that character.

Even though the bonding is with an imaginary character it provides the intrinsic motivation to continue reading because there are qualities in the story that are relevant to the reader. Relevancy is seen as an important factor in the development of motivation (Kasser, 2002) yet, for extrinsic and intrinsic motivations to make meaningful contributions, there has to be an integrative interaction between the two types of motivation.

Intrinsic and extrinsic motivations are often short-lived as individuals mediate with multiple and competing life experiences. For the deaf reader to adopt a proactive stance, they need to internalize certain life experiences effectively. Otherwise the integrative process will reverse itself and potentially regress to a psychological state of amotivation. SDT proposes that self-determination provides additional support to the motivational process and provides individuals with the capability to maintain long-term goals associated with their social, economic, and educational experiences.

**Self-Determination**

An individual who exhibits self-determination responds to their specific needs as a result of self-regulatory processes supported through extrinsic and intrinsic motivation. Still, their needs and goals are often competing with external pressures that are controlling, pressuring, or coercing them to make different life choices from those they are trying to pursue. Depending on how they choose to respond they will move across a continuum with amotivation being on one end and self-determination being on the other end. As individuals transition across this motivation continuum they mediate their sense of autonomy, relatedness, and competence with
the degree of extrinsic and intrinsic influences they experience. Depending on social, economic, and educational influences, they will either select self-determined choices or become amotivated (Deci et al., 1994).

Autonomy and relevancy were demonstrated through thick descriptions provided from various participants’ comments. Competence, another factor that drives motivation, involves a personal sense of self-worth that strongly contributes to the self-determination process. Eve talks about how she came to understand her self-worth in ways that provided her with the determination to receive recognition of her competence from peers and others from within her social milieu.

There were a few reasons…first, peers you know. I wanted to be normal, for a lack of a better word, but I wanted to compete on the same level, not to be thought any less of or that I couldn’t succeed.

Sean discussed how his sense of competence was developed as he actively filled in his perceptual holes based on his Swiss cheese analogy. He felt this enabled him to be self-determined and successfully pursue his personal goals.

So as you filled your holes you felt good?
Myself, I felt good about myself, yes. Then as I was able to fill holes, I felt more confident, then even more after that. As I found one, then another one and I was able to fix the holes, just keep going back and filling the holes up to now. I am sure I still have a few. I think that we all do.

These deaf readers indicate that communication forms the nucleus of their journey to become successful readers. As they initially work from a visually orientated perspective they seek ways to communicate that prove more satisfactory to them. When they realize the limitations that visual information and auditory sources of communication provide, one of the choices they pursue is reading. Their processes require time, more than generally needed for
hearing readers, to sort through the strategies, interactions, and bridging techniques they need for their specific needs.

As they work through the reading process, they encounter specific experiences with reading that require them to make transitions. They progress from reading for pleasure to reading for analytical and professional reasons. To achieve this, they make use of associations that help them develop their ability to generate inferences about their reading. There is also a reliance on a repetitive reading process to help them develop a sense of language, rhythm, and prosody. They use reflection to evaluate their reading processes and also their understanding of the textual materials that they choose to read. These choices are based on the values they assign to the amount of time available to them and their ability to read certain kinds of text.

The entire process cannot begin without specific social experiences. It requires successful mediation of their isolating experiences that are a natural part of their deaf experience. These deaf readers place a high value on early family intervention as a primary contributor to their long-term success as readers. SDT also suggests that these readers have found ways to internalize certain social, educational, and family values in ways that promote intrinsic motivation and lead to self-determination behaviors to become successful readers.
Chapter Five

Discussion of Findings and Implications of Practice

This study was based on the researcher’s personal and scholarly awareness of social changes in our global society. These involve social, economic, and educational shifts that are intensifying the need for deaf readers to develop higher levels of reading fluency. Educational efforts, since the start of the 20th century to the present time, have fallen short of their goal to improve reading fluency for deaf people. These educational efforts have generally been judged unsatisfactory (Johnson et al., 1989), and the lack of success is now globally impacting the lives of deaf people.

Today, more than ever, every individual is surrounded by a constant requirement to read. The influences of a technological age have expanded access to textual materials beyond traditional print technology. Being able to use both conventional and electronic resources has become a critical individual skill. Henry acknowledges the constant need to read during his personal and professional life routines.

Right now I read all the time. At home I will read captions on the TV. Read newspapers and magazines. Some times I will read a novel. At work I am reading different things all the time. So I have to tell you that reading is a big part of my life…I think we live in an age where information is so important…[and]…I failed to mention all my time on the computer. I have a MAC computer, I have an I-Pad, and I have an I-Phone. So I am always searching for news.

In this globalized world, the ability to read and write involves critical skills for maintaining successful and sustainable life experiences. Deaf people who do not achieve high levels of reading and writing fluency may be left behind. They risk being permanently confined to a globally underserved and disadvantaged population. Yet, this should not become a foregone
conclusion because we know that some deaf individuals become successful deaf readers beyond a fourth-grade reading level.

It is important to understand what their experiences are and specifically how they make the transition to reading because of these experiences. This was the primary question addressed by the researcher who was motivated to determine if an understanding of their transitional experiences would lead to educational solutions that support expansion beyond a functional reading level for more deaf people.

**Summary of the Study: Goals and Methods**

The primary goal was to explore the experiences of successful deaf readers to determine how they mediate their lived experiences and successfully transition to reading. Why successful deaf readers succeed where other deaf readers cannot is important to understand. It is needed in order to effectively change teaching methods, curriculum, and educational policies to enable a broader range of deaf people to acquire reading competencies. For this reason the primary research question was: *What experiences contribute to the development of successful deaf readers?*

As these experiences were explored, with the participants, the next goal was to understand particular experiences supported a successful transition to reading fluency. Thus, a secondary question was: *In what ways do these experiences support their reading process?* Once these processes were explored, then a third question was asked: *Can an understanding of these experiences contribute to future research efforts to develop positive reading outcomes for deaf readers?*

The theoretical framework chosen for this research study was based on the need to document those particular lived experiences and the causal explanations that these deaf readers
offered about their experiences that supported their reading success. There was a need to understand how their efforts are different from the general population of deaf readers who do not appear to easily transition to successful reading. Understanding these processes offers opportunities to potentially develop educational practices that effectively support their social, professional, and educational needs.

An inductive process was used to approach these particular and holistic experiences. A social-constructivist paradigm was chosen to support the inductive process. Phenomenology was chosen to guide the research using an interpretative phenomenological analysis approach. Self-Determination Theory (SDT) was added to the theoretical framework to help consider the participants’ tacit levels of knowledge. These deaf readers have ontological experiences that are uniquely individual and these experiences were explored through in-depth interviews.

An extensive review of the literature was conducted to determine what is currently understood about deaf readers. There was a need for the researcher to understand the multidimensional influences on deaf readers that are derived from social, cultural, psychological, and educational settings on the reading process. The literature review was organized into four areas with the first area focused on Self-Determination Theory to understand the psychological perspective on human motivation that lead to individual self-determination. It was reasoned by this researcher, that the degree and type of individual motivation might be a contributory factor for successful deaf readers.

The second area was reading comprehension to understand how deaf readers may be similar or different in their ability to comprehend text and to understand what difficulties are unique to deaf readers. The third area was reading strategies to explore how deaf readers use
specific strategies to comprehend different types of reading. The fourth area explored the potential effects of bicultural/bilingual perspectives related to deaf readers.

In-depth interviews were used to explore the particular experiences and participants’ explanations about the reading process. These interviews were videotaped because the researcher and participants conversed in American Sign Language (ASL). The videotaping allowed the participants to directly express themselves in ASL and supported a fully intersubjective experience during each interview.

The researcher, through his knowledge of personal contacts, and through suggestions made by peers and participants, identified a group of potential participants. From this initial group six participants were directly approached by the researcher and all agreed to be interviewed. These interviews were scheduled at a time and place mutually agreed upon over a three-month period. The length of each interview was between forty minutes to one-hour and ten minutes depending on the availability of each participant. Each interview was scheduled in a manner to avoid interrupting the participants’ regular work schedules. Each participant was given the option of doing the videotaping session using an on-line video recording process or an in-person session video recorded with a FLIP camera.

Additional contacts were made using a snowballing technique based on participants and suggestions from peers. From these suggestions an additional eight participants agreed to be interviewed. Ten interviews were selected for data analysis from the fourteen completed interviews. These ten interviews form the primary source of data collected for this research project. Secondary resources were maintained by the researcher in the form of memos, observation notes, mind-mapping charts, and the use of personal journaling.
The interviews were conducted over a three-month period with each interview being transcribed and member checked with the participants. Conducting the data collection in this manner allowed the researcher to be fully engaged with each participant and to have time for reflection as each stage of the research involving the ten interviews (Maxwell, 2005; Sandelowski, 1995). It also allowed time for the translation process as each videotaped interview was transcribed from ASL to written English for data analysis purposes (Temple & Edwards, 2002; Temple & Young 2004). The goal of these interviews was to determine if their experiences would identify specific thematic groupings and support analysis of the transition processes they used to acquire reading fluency.

Findings

As reviewed in the previous chapter, there were several themes identified as being significant as data was analyzed and triangulated through the coding process. These themes were labeled (a) communication, (b) processes, (c) reading, (d) social interaction, and (e) motivation. Each theme contained various topics that were organized in relation to the themes as they emerged during the data analysis. These themes and sub-topics are outlined in Chapter Four in Table 4.5. The demographics associated with this participant group are identified in Table 4.1.

The summary of the findings and subsequent conclusions will be discussed based on what was highlighted in Chapter Four, along with the understandings gained from the literature review and the insights provided by the theoretical framework. The findings will be supported by the thick descriptions from the participants along with the memos, notes, mind mapping charts, poster notes, and personal journaling resources developed by the researcher throughout the research process.
This study explored the experiences of successful deaf readers through an in-depth interview process. These participants shared their personal experiences, which proved to be highly heterogeneous. Their paths to successful reading were diverse using different strategies, bridging techniques and types of interaction to make a successful transition to reading fluency.

Communication

Communication formed the first thematic focus with these deaf readers. Their experiences with communication were diverse yet; they all shared a common response to the access topic of being very frustrated with those experiences. They found their early communication experiences limiting and information they valued was difficult to obtain. This was true for most of the participants with the exception of a few of them who had early experiences in an all-deaf family where communication access at the family level was less frustrating. Also, outside the family unit, these participants experienced the same level of frustration concerning communication access as the others.

At the same time, these frustrations initiated an internalization of a set of values they developed about information and knowledge. These values were developed as they became more conscious of the limitations of their visual orientations to the world at large. To keep informed, they made decisions to use reading as their primary communication strategy. They arrived at conclusions that reading was the only alternative they could pursue to alleviate their isolation and improve the quality of their lives. Reading was seen as an effective way to satisfy their psychological needs to be competent and autonomous individuals.

Within the literature, there has been discussion about the importance of phonological information to generate linguistically what is called the alphabetic principle. Constant sound associations provide the foundation for phonological knowledge that leads to eventual success
with reading for most hearing readers (Mayberry, Del Giudice, & Lieberman, 2011; Moores, 2009). Still, from this purposive sampling, these successful deaf readers indicated that their level of hearing loss was profound. They were, for all purposes, successful deaf readers in spite of the fact they did not have access to auditory information.

All but one of the participants indicated that hearing aids or other amplification systems were not helpful to them due to the severe degree of hearing loss they experienced. Only one of the participants has continued to wear a hearing aid into adulthood. None of the participants had ever worn a cochlear implant device. Shane provides a typical description of the participant’s experiences with hearing aids.

While I was growing up, my father, my parents wanted me to hear, to try hearing aids, body aids. Naturally, they asked me, “Can you hear?” I would continuously say no (Shakes head in demonstration of gesturing, ‘no’). And then they found it was worth nothing because there was no sound discrimination (Fingerspells ‘discrimination’). I could detect sound but what sound that was I had no idea so it was worth nothing to have hearing aids.

Shane’s description of sound perception was common across all of the participants except for Eve who started out with binaural use of hearing aids and later decided to use only one hearing aid. But, Eve did not indicate that having the hearing aid made significant differences in her communication experiences. Eve, and a few other participants, mentioned the use of speech reading, yet they did not indicate that it was a primary tool for acquiring speech information from others.

Thus access to information was the primary struggle for all of these participants because their effort to communicate with others was visually orientated. This meant their choices were highly restricted to the communication modes they could effectively use which were reading and
writing. Once they made the transition to reading as a communication choice, they found the need to work through specific processes to become successful with their reading.

**Processes**

Once reading becomes their communication choice these deaf readers indicated that they developed a series of strategies. Most of these strategies used basic tools to carefully select reading materials that were at their reading level or just slight above it. They tried to find materials that were interesting to them and connected to information that they already had knowledge of from prior experiences. They used comic books, graphic novels, and illustrated books to capitalize on the benefits of visual information that surrounded the text. They used repetitive reading to help them gain a sense of language usage, rhythm, and grammatical patterns.

They expressed a lack of enthusiasm for dictionary use and indicated a strong belief that they could heavily rely on contextualization as they read to infer meaning from their reading experiences. To supplement their reading, they relied on groups or peers as a means of helping them clarify meaning and for discovering new strategies or techniques that they could apply to their own reading. They responded to the use of games provided by interactive computer software. Or they gained a sense of how to play with language from examples provided to them by their parents or teachers. They also used bridging techniques to help them develop skills they needed for reading.

**Bridging**

When these deaf readers refer to bridging, they are talking about the ability to work across different communication, language, and associative categories to help them develop a strong reading foundation. They mention the early benefit of being able to associate an object to
the English word and then to the ASL sign. They also discuss the idea of being able to make transitions between different abstract and symbolic systems such as language (signing), writing, and reading. They talk about the way a book series helps support their repetitive reading efforts due to the gradual building up of knowledge based on a familiar world that the author creates through a book series.

A few participants mention the use of music, not as a linguistic tool, but as a sensory tool to gain some sense of auditory patterns and rhythm. However, their most frequent reference to bridging was related to their perceptions of having opportunities to work bilingually with both English and ASL. John provides a typical perspective about English and ASL interaction.

It was fun, working back and forth between the two. It felt like something came together, the ASL and English blended into one way of thinking…(Points to space referring to a teacher)…he helped us make that connection.

Bridging was a technique repeatedly used to help them develop their individual skills to the point they could develop ‘one way of thinking’ that blended into an effective reading approach for them. Many of these bridging techniques were developed as they interacted with others through reading to expand their knowledge base and develop increasing reading comprehension skills. As their reading experiences became more diverse, it led them to use more sophisticated reading techniques to support their reading.

**Reading**

Early in their reading experiences, these deaf readers sought to use reading as a means to obtain information and knowledge that they were intrinsically motivated to pursue. They used reading to bond with fictional characters as a substitute for the social interactions they could not experience within their family and social units. They used reading repetition to help them become skilled readers and to gradually enhance their functional literacy levels.
Over time they became aware that reading serves different purposes that support professional and educational goals that they wanted to pursue. This encouraged them to make the transition from reading for pleasure to reading to infer meaning. They moved from the mechanical process of learning to read to abstract activities that supported the use of reading to learn. In the transition phase, they found making associations from their reading useful and supportive of their ability to reflect about their reading, and to advance their ability to make inferences from different kinds of reading materials. Their decision to pursue reading as an alternative way of understanding their world and to interact with others received its direction from a social context. For these deaf readers, their relationship to these social contexts led them to seek reading as a solution for their personal needs.

**Social Interaction**

The strongest social experience that these deaf readers emphasized was related to the level of family interaction and interventions they received while growing up. These deaf readers may have had the fortunate luck to have parents, siblings and extended family willing to interact with them earlier in their child development years than other deaf individuals. For this reason, family appears to be a critical social experience that contributed to their efforts to become successful readers.

At the same time, limitations in family interactions and to other social events exposed them to various degrees of isolation. Even though they highly value the social experiences they have with their family, they still made note of their frustrations. Within deaf culture, there are stories that are shared that describe common experiences all deaf people experience to some extent. One of these experiences is called the “dinner table syndrome,” where the deaf person is
left out of the normal family dinner table conversation. Eve shares this kind of isolating experience:

So when I finished at the dinner table I just left to do something else. My mother would come find me and ask me what was wrong. I explained I didn’t understand anything they were talking about. My mother apologized, said that was our fault, and we should make sure everyone takes turns one at a time talking…so I went back to the dinner table and mother explained to the others that it was important to slow down, take turns…That was fine for about five minutes then they were all back to talking to one another. Nothing new, so that was the way it was. Can’t change that so I just changed what I would do.

This is one of many frustrations that these deaf readers dealt with in their daily lives. While this appears to be a negative perspective it represents the flip side of their experiences with isolation. That is, without the isolation, these deaf individuals may not have felt the need to seek alternative means of gaining access to information and knowledge that their reading ended up providing for them. Each of these themes demonstrates parts of their experiences, yet these parts by themselves do not add up to the whole picture. Their social experiences and isolation also created external influences that provided them with motivation to seek solutions.

Motivation

External influences related to communication access and social experiences of isolation were early extrinsic motivators for seeking alternative means of interacting with the world surrounding these deaf readers. At first, reading would not appear attractive to these readers because of the inherent difficulties associated with learning to read. Neither reading nor writing provides a natural way for communicating because they are based on complex symbol systems that do not involve face-to-face social interaction.

Early efforts would involve attempts to access information and knowledge using a visual orientation mode to satisfy their psychological and biological needs. This involves guesswork, recreating what they observed to construct tentative meanings within their world that would
suffice. Sean provides one example of this kind of effort to visually develop meaningful associations.

Motion is equal to sounds for deaf people…remember before TV…before there was no captions. During my time there was no captions. So, anything to do with action. So what I would do, I would think in my head, and make up my own stories. Really funny, now that I look back, because when I look at the old movies with captions, I laugh at myself, what I made up was completely off the point, and completely different story from the captions.

*From what you imagined?*

Exactly, completely different…But interesting. But that…suppose it was talking. Two people talking that was not interesting. But something like a baseball game, sports, I could understand the rules of sports and could watch and enjoy. I think it was motion, action, and expressions.

Sean provides two contrasting understandings of the world. One is filled with “motion, action, and expressions” that he has to struggle to interpret into some form of understanding that is meaningful to him. The other is an altered world that replaces visual observations of action with visual processing of symbols from textual materials. When his reading fluency reached a certain level, he was able to compare these two ways of observing the world and his intrinsic values shifted towards reading as his preferred means of understanding his life experiences when he has to interact with others who are not like him.

As an awareness of the stark differences in their degree of ‘knowing’ becomes transparent to them, they become self-determined to shift their values from visual representations (seeing) to visual abstracting (reading) to improve their life experiences. These deaf readers do not abandon the use of their eyes. Rather, they reorient how their eyes receive and interpret information to enrich the content they are able to access. They are in a self-determined mode to do this because they do not see any alternative way to be as easily ‘in’ the world.

Their self-determination is more than just the desire to access information and to gain knowledge. It is also a process towards developing a sense of self-worth that can be measured
against a standard they value. Shane uses the family unit and his siblings as one way to measure that self-worth.

I also looked to my brothers. They don’t read but I wanted to be “equal to them.” So the only way is to read books.

The characteristics of self-determination start with autonomy. As internalization occurs it involves persistence, flexibility, and vitality (Deci & Ryan, 2002). In the thick descriptions provided by the participants, we can see examples of these characteristics through their efforts to grasp meaning for themselves. Their engagement with reading provides a means of internalization where reading expands their choices and gives them a sense of freedom from the restrictions of other communication modes.

For these deaf readers, the motivational drives to read are not based on an abandonment of their visual preferences or ASL. Reading serves to expand their understanding of the world that is enriched by interplay between both ASL and text, using bridging techniques and associations to infer meanings that cannot be developed any other way. Reading would be less rewarding if it was an isolated experience divorced from their other natural ways of knowing the world through visual observations. For those deaf readers who achieve a median 4th grade reading level or less, this researcher wonders if it is because they never gained the right footing to explore the interplay between ASL and English. If they had been given strategies, bridging techniques, and the necessary social interactions along with access to both languages, could they have achieved successful reading experiences?

**Trustworthiness**

During the three months of this qualitative research process, a focus was maintained on minimizing any potential threats to trustworthiness. This was achieved through a series of steps proposed by Creswell (1998). First, multiple data sources were collected consisting primarily of
the in-depth interviews and researchers’ maintenance of electronic journaling, observations, memos, mind mapping charts, and poster notes. These various sources of data were evaluated, analyzed, and coded to allow themes to emerge. As the themes became transparent through these various data sources, the trustworthiness of the research was confirmed (Guba, 1981). The participants of each completed videotaping interview were provided with transcripts of the translations to check for accuracy of their responses and use of any quotes attributed to them in the subsequent report of findings.

The use of thick descriptions and a careful description by the researcher of the procedures undertaken during this project provide the primary means of assuring confirmability to other researchers. Should they decide to undertake a similar project with another group of successful deaf readers the researcher is confident that the information conveyed in this research project will provide sufficient basis for determining the appropriate fit to conduct similar research (Lincoln & Guba, 1985).

**Limitations**

One of the limitations associated with this qualitative study involves the small sample size used for this study. It also includes the limitations of time for both, researcher and participants, to participate in a longer study of the questions being asked concerning successful deaf readers.

A second limitation is that the ten participants cannot be expected to represent the experiences of all deaf readers. Nor can they provide all the causal relationships for successful transitions to higher levels of functional reading. It is also not possible to assume that deaf people will always choose reading as an alternative choice to improve their access to information and knowledge.
The third limitation is that the researcher made an assumption that these participants, having achieved advanced degrees at the graduate or doctoral level, represented an example of highly functional deaf readers. It may be the case that successful deaf readers can be identified at various professional, educational, and economic levels. It may also be determined that there is a better definition for successful deaf readers than was provided by this researcher. It is possible there are more effective methods to screen deaf individuals to identify successful deaf readers from a broader demographic range that future studies can use to improve our understanding of successful deaf readers.

A fourth limitation is related to the translation capabilities of the researcher. The researcher has been using sign language since the age of five and possesses near-native ASL skills. Additionally, he has been involved extensively in the translation of dramatic scripts from English to ASL. Yet, these skills were developed through life and professional experiences and not through professional or academic training. It is possible that researchers who have advanced language and translation skills can conduct more rigorous analysis that will interpret findings differently from the current researcher.

**Implications for Theory and Research**

The literature review has clearly identified the limitations of deaf readers related to their functional reading, comprehension skills, and use of reading strategies. Concurrently, the literature lacks satisfactory explanations of how successful deaf readers achieve higher functional levels of reading. There is also a lack of understanding on how successful deaf readers improve reading comprehension over time, nor is there an understanding of the specific types of strategies they use to mediate various types of textual materials.
The literature does not provide a definitive model for reading instruction or curriculum development that can be effectively implemented in the classroom to meet the needs of deaf readers. The heterogeneous nature of these deaf readers also appears to be overlooked which may suggest the need for highly developed individualized plans. The plans can approach the reading process in ways that support the development of effective readers across a variety of reading levels. The aim of this research was to identify scholarly insights into the experiences of successful deaf readers. By detailing their perspectives on the critical factors contributing to their success it was hoped that an improved understanding of their experiences could be applied effectively in educational practice.

Also, various reading theories and reading curriculums have been developed over a long period of time. Yet, these theories and curriculums have been developed based on the experiences of hearing readers. Assumptions have been made that the same concepts, reading comprehension processes, reading strategies, and curriculum approaches effective for the general population of readers are also applicable to all deaf readers. This may not always be true. Finally, deaf readers, due to medical and social perspectives, are not generally considered as having a cultural or language experience significantly different from hearing people. Thus, the secondary aim of this research was to explore the possibility that alternative approaches in the area of reading instruction can be developed that are tailored to the specific needs of deaf readers.

Within the literature an important debate has been the validity of the Qualitative Similarity Hypothesis (QSH), which proposes that deaf readers experience the reading process, develop their reading skills, and acquire reading fluency in a similar manner as hearing readers. What is proposed as different is that deaf readers are quantitatively delayed with the reading
process. The deaf readers interviewed for this project confirmed this delay yet; at the same time they did not negatively associate this delay with their reading experience. Instead it was seen as a process that was normal for them because they could not receive the same level of auditory input as hearing readers. For these deaf readers their process is normal and reading is seen as a life-long process.

The project also confirmed what the literature has noted about deaf people and their difficulties with comprehension. They use reading strategies that are limited or used in a different manner compared to hearing readers. Again, instead of these factors being seen as problematic, these deaf readers talked about making connections and associations through effective interactions with their family members, teachers, partners, and mentors. Although these experiences had to wait for delayed outcomes, the participants of this research felt those experiences helped them to develop better comprehension skills. They perceived their use of reading strategies as a process that was individually adapted to their learning and reading styles.

What may be added to the literature from the results of this research study is a better understanding of what motivational approaches are effective with deaf readers. There also may be a better understanding of how deaf readers identify methods to bridge different techniques together to develop unique approaches for acquiring reading fluency. There also may be a deeper understanding of the cultural and language diversity that deaf readers frequently mediate. These are demands that every reader faces while acquiring basic and advanced reading levels necessary for their personal, professional, and educational needs.

**Implications for Practice**

During the process of collecting data and conducting analysis, certain implications became apparent that could potentially contribute to future educational practices in deaf
education. One implication is early intervention, which traditionally has been primarily a medical approach. Medical interventions are associated with early childhood hearing screening, cochlear implant surgery and use, audiological testing for hearing aid support, and speech and language review for speech training. There is also some advocacy for earlier admission into the public school system prior to kindergarten in order to access special education programs.

The participants in this research study frequently mentioned the impact of early parental, sibling, and extended family intervention in their social, language, and educational development. This appears to be a significant contributor to their success later in life. An interview exchange with John serves to clarify one aspect of early parental involvement.

…(Shrugs) I guess reading was…(Reflects)…I know definitely that my mother made sure that I learned how to read, that’s for sure. Yes, I know definitely that my mother made sure I knew how to do math.

Did you have any problems in school related to reading?
(Shakes head, ‘no’) My mother made sure that I was ahead of what was expected. She would make sure before I entered kindergarten that she would teach me what I needed to know so when I entered that grade…(Facial gesture, ‘I’m okay’).

Another example of this kind of early intervention at the family level can be seen in an interview exchange with Esther.

So you mean your sister and brother were your models growing up?
Yes.
You looked up to them?
Yes.
Helped you to become motivated?
Yes.
Your sister and brother helped you to read?
Yes.
...or just served as models?
Both, when little they helped me to read. They pointed out things, like mother told me stories. I was the baby in the family. They cherished me. Taught me continuously, sat with me to read. Father and mother both, (Face indicates, ‘yes’).
A third example of parental intervention describes how Eve’s mother made aggressive efforts to determine the best ways of supporting her needs as a child.

…Interesting about my mother and father when they found out I was deaf...they found out about age 1 ½, about then. And, at the time there was no Internet, so my mother was very assertive looking around to find information…Asking people if they knew how to teach a deaf child to communicate. What should she do?[and]…Same time as I learned to sign my mother wanted me to learn speech. Her philosophy at the time was to expose me to different options and later I would decide which one I was comfortable with using. So every morning, I never forget that, sitting on the floor in the living room with mother, so we had some 3X5 index cards and would practice speech sounds like ‘CH’, ‘SH’ and went to school for speech therapy. So I could use speech.

These are a few examples of the impact of early parental and sibling interventions at the social and educational level for the deaf child. These examples are the exception rather than the norm for deaf children. Approximately ninety percent of deaf children are born into hearing families (Mitchell & Karchmer, 2004). Often these families are not prepared, nor do they have the capacity to aggressively support the needs of their deaf child. They will receive the screening, medical, and audiology support because these areas are often mandated by congressional and state legislation. There is rarely the same level of support to prepare parents to cope with the child development years of their deaf child prior to their admission into the public school system. This appears to a serious gap that needs to be addressed through educational policy and practices. There is also a need to develop a consistent level of advocacy for the needs of each deaf child to help them overcome any sense of helplessness they experience as they struggle through their life experiences (Abramson et al., 1978). The most logical choice for a consistent advocate on their behalf will likely come from the family level.

Another implication is the need for a more consistent individual education plan (IEP), which is currently mandated by federal legislation for the K-12 grade levels. It appears that for deaf children the implementation of an IEP needs to be expanded. Rather than waiting until the
public school years the IEP could be implemented at birth and continue until their freshman or
sophomore year of college. An IEP grounded in this structural approach may prove to be
advantageous for deaf children and their reading abilities. John provides an example of why this
may be necessary.

There were a good number of us (in school), even to the point where the separation
between the top class and the second group was very close…that junior year, that year.
(Shows physical act of throwing up’) [the teacher] did things repeatedly and constantly
losing her temper very strict, her hair up in a tight bun on the back of her head. That kind
of teacher was hard (Shows ASL, ‘puffed checks”). For those top two or three students
she was the right teacher for them while for the rest of us (Rases both hands) it was too
much, standards set impossibly high. We were good (Nods, ‘yes’) but…all were ‘gifted’
but maybe the others were a little more ‘nerd’ gifted so the balance within the whole
group was not there. Balance, perhaps not balance, but the focus on the mental aspects
only, that’s all…that...(Hand gestures, ‘push it out of his mind”) (Makes a face of
irritation)...the freshmen year and eighth grade was the same teacher and also during the
junior year who we loathed.

What John has described does not tell us what kind of curriculum plan was in place. We
cannot know the policies and politics of the school where she worked. She may have had IEP’s
for her students, but the plan itself is not available for review. John does indicate in his narrative
that the class was balanced, and that each child was gifted to some degree. Yet, the classroom
environment was not conductive to his learning. John is now well into adulthood and the
emotional response to this memory was profoundly felt during the interview. It was made clear
to this researcher that to successfully support deaf readers there is a need for a more extensive
and truly individualized educational plan. Without such a plan in place, assuring that deaf
children get the necessary developmental support they need is problematic. An educational plan
needs to start early and be extended longer than what is currently the educational practice.

A third implication is to recognize that acquisition of the English language requires an
extensive learning experience for a deaf child. A hearing child is immersed from the moment the
baby drops into their mother’s pelvic region. Through the advantage of bone conduction sounds from the external world are consistently heard. At birth, hearing babies are immersed in language and social interactions that foster the early development of language and thought. Deaf children cannot achieve this type of immersion. For this reason alone there is a need to recognize that their process requires a developmental adjustment from the normal timetables expected of hearing children. There is a need to support a developmental pace that allows sufficient time for each deaf individual to fully achieve language fluency and critical thinking skills.

This means that the ‘normal’ child development stages used to evaluate and to test children through standardized testing methods would benefit from an evaluation to determine if modifying them would prove beneficial to deaf readers. In other words, when a deaf child does not precisely match specific norms based on what is expected of hearing children, it does not represent a deficit situation. It simply recognizes a quantitative delay that needs to be socially and educationally adjusted to support their needs. It needs to be developed in a manner that allows them to catch up with their hearing peers over a reasonable period of time. Successful deaf readers, interviewed for this research study, demonstrate to some degree the critical nature of their language development process and the potential limitations if necessary resources are not provided early enough for deaf children.

Finally, there is a language implication that needs to be addressed for deaf children. Historically, educational curriculum had focused on teaching deaf children based on research conducted with hearing children as the best means of reading instruction. There has also been a focus on either English or speech training as the primary focus. The alternative focus has been in bicultural/bilingual programs where the primary emphasis is ASL. Successful deaf readers
indicate that there is not a primary preference for English or ASL. They found access to more than one language beneficial because of the bridging process they experienced while interacting with English and ASL. This helped them make associations between the languages that eventually led them to discover strategies and techniques they could use effectively in their language development and later with their reading fluency.

**Recommendations**

The results of this research study may provide new ways of shaping public policy and educational practices that prove to be beneficial to a broader base of deaf readers. It may lead to improved curriculum planning that is based on the specific needs of deaf readers where they differ in degree with hearing readers. In current educational settings, teachers struggle to utilize the best curriculum practices for their deaf classroom that is predominantly heterogeneous. At the same time, students struggle to adapt to curriculum content that may not necessarily provide the best ‘fit’ to their learning style and to the specific ways they have learned to cope with their language development.

Taking into consideration what has been learned from the participants during this research study, the researcher offers a number of recommendations that may help with educational policy and curriculum planning. To provide confirmability and trustworthiness of these recommendations, the researcher will discuss each recommendation and its relevant associations to the literature, theoretical framework, codes, and thick descriptions provided from the participants.

**Summary of Implications for Future Study**

This qualitative research project pursued an understanding of successful deaf readers by exploring three questions. What experiences contribute to the development of successful deaf
readers, how do these experiences influence their reading processes, and can an understanding of these experiences contribute in ways that benefit a broader range of deaf readers?

Qualitative studies, unlike quantitative studies, do not strive to generalize from findings due to a general consensus that generalization is not as easily achieved through a naturalistic inquiry approach. Triangulation of the data is used not as a means of confirming the data but instead to expand the horizons of the research inquiry to achieve a comprehensive understanding of the research (Tobin & Begley, 2004). One purpose for this research study was to explore the data collected from in-depth interviews of successful deaf readers to hopefully identify findings that are useful and applicable to a large range of deaf readers. As mentioned earlier, the findings developed from this research project cannot represent the experiences and causal outcomes of all deaf readers.

One suggestion is to continue qualitative studies of the experiences of successful deaf readers based on a wider range of professional and educational levels to determine if their experiences are similar. If these experiences reveal further understandings of the experiences of that are similar to this research project it may enhance the sense of trustworthiness and confirmability of the research. An aggregated collection of several qualitative studies may potentially generate a set of new questions that need to be explored. This may lead to some quantitative or mixed-method studies to confirm the findings and support the development of curriculum that can be adopted for the benefit of more deaf readers.

Another suggestion would be to do a longitudinal study of the IEP process to determine if current usage is structurally sound for deaf children. If possible further refinements can be made to the IEP process to include earlier implementation and an extended use past the K-12 educational range. If proven effective, it may enhance educational outcomes for deaf children in
the areas of reading and writing. Still, issues surrounding the training of teachers for the deaf will need to be addressed in order to assure that IEP usage is maintained and effectively applied prior to and after traditional K-12 educational settings.

Another recommendation would involve additional research to determine the viability of providing resources and training within the family structure. By initiating pilot programs to test early interventions, at the family level, may help determine if the experiences of successful deaf readers confirm the validity of developing parental or family competencies that promote the social and educational development of deaf children prior to school age enrollment.

This could create a new level of advocacy that is needed for each deaf child. In today’s world, deaf children receive frequent feedback on their inability to hear, their difficulties with communication, and their educational challenges. It is difficult for these deaf children and their families to protect themselves from learned helplessness. Improved means of advocating for the unique needs of each deaf person may prove to provide more productive outcomes for more deaf people.

Finally, there could be a consideration for efforts to study a possible shift from monolingual language emphasis, in either English or ASL, to a bilingual and integrated use of both languages. Successful deaf readers in this research study have indicated that using both languages interchangeably and equally was of value to their learning outcomes. The interaction with both languages provided them a means of making associations about language that were instrumental in helping them develop their understanding, use, and application of language that enabled them to become fluent readers.
Conclusion

Traditionally research has focused on the reading deficits of deaf readers and has not considered the full extent of environmental, cultural, schooling, and political factors that may influence them. Research has overlooked potential contributions that successful deaf readers can provide through a deeper understanding of their experiences that lead to successful reading outcomes. Extensive research findings based on hearing readers have been applied to deaf readers, based on the assumptions that the stages of reading are qualitatively similar and that it is only due to the inefficient processing of language that creates quantitative delays in their language development (Paul & Chongmin, 2010).

The educational field contains numerous theories on the development of reading, yet these diverse theoretical perspectives have not led to effective classroom outcomes for deaf readers. Deaf education could synthesize these theoretical perspectives into metatheoretical and meta-paradigmatic approaches (Paul, 1998; Ritzer, 1990; Wang, 2010) to better understand and support the needs of deaf readers. SDT could be used to further understand the psychological need for self-determination. Understanding how some deaf readers use of intrinsic and extrinsic motivations and determining if they are similar or different from hearing readers could also be beneficial (Chirkov, 2009; Niemiec & Ryan, 2009).

Surveying the constructs of relatedness, competency, and autonomy may explain how successful deaf readers develop their ability to be motivated (Deci, Vallerand, Pelletier, & Ryan, 1991; Ryan & Niemiec, 2009). Understanding these motivational processes can offer new avenues of exploration for use with strategies that support the reading outcomes of deaf readers.

Deaf readers may also use reading comprehension strategies differently from hearing readers. These differences need to be explored to help explain these processes and provide more
benefits to a broader range of deaf readers. Research focused on the various parts of the reading experience have not led to significant findings that could be transferred to the classroom. There is a need to synthesize these various parts of the reading process based on a holistic understanding of deaf readers.

The primary experience that started these deaf readers on their journey was a need to access information. Their deaf experiences isolated them from family and society due to the unique communication barriers their hearing loss produces for them. Writing, gestures, lip reading, speech, and home signs are initially developed in an early effort to improve access to information. Over time these deaf readers devalued those communication solutions because they determined that the results were superficial.

A transition occurred when these deaf readers became aware of the restrictions they were experiencing related to accessing information and knowledge. Once that awareness became transparent they sought alternative methods for resolving their communication needs. If certain strategies, bridging techniques, and interactions are achieved, similar to those experienced by these deaf readers, they shifted their focus to reading as the primary means of communicating and interacting with others. They also used reading to satisfy their need for information and knowledge and to some degree companionship to resolve isolation issues they faced in their daily lives.

These deaf readers also described other transitions they needed to make associated with their reading. They discovered the need to move from reading as a learning process to use of reading to infer meaning about what they were reading and observing about the world around them. While reading became increasingly important to these deaf readers, they never abandoned their use of ASL and felt strongly that their ability to interact with both languages was
instrumental in their language and reading development. They were able to make associations based on their use of both ASL and English. This supported their learning development in a manner that they felt would not have been present if they had been restricted to a monolingual experience.

These are some of the essential experiences that these deaf readers identified as being critical to their reading development. It will be a positive step to conduct further studies with successful deaf readers to confirm these findings and to identify new findings to crystalize our understanding of deaf readers. This study provides one step towards those processes needed to explore and understand the unique experiences of successful deaf readers. Hopefully this will contribute to the overall success of a broader base of deaf readers.
References


Appendices

Appendix A: Interview Questions

Pre-interview general questions for basic data collection-

Q 1. Can you provide some general information about yourself?
Q 2. Can you provide an approximate age range, for example, 20-30 years old, or if you are comfortable provide your current age.
Q 3. Over the years have you ever used hearing aids, amplified equipment, or experienced a cochlear implant?
Q 4. Can you describe how communication happened in your family?

Formal interview questions for exploring the reading experience of successful deaf readers-

Q 5. Can you tell me about your current experiences with reading?
Q 6. Can you tell me about a recent example of what you choose to read?
Q 7. Can you tell me how you started to read?
   Prompt 1. Your earliest memories, good or bad about reading.
   Prompt 2. Any specific memories you may have about before school, during school, and after school experiences?
Q 8. How did you become a successful deaf reader?
Q 9. Has reading changed for you over time?
Q 10. What three words would people closest to you use to describe you?
Q 11. Have people in your life influenced your reading?
   Prompt 3. Tutors, friends, parents, family, other.
Q 12. When did reading become easy or pleasurable for you?
Q 13. What helps you understand what you are reading?
   Prompt 4. Fingerspelling, dictionary use, captioning, re-reading, reflection, sign language
Q 14. Can you suggest anything that may help other deaf people who struggle with their reading?
## Example 1-Coding Families

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### 4. Contingencies

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### 5. Consequences

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### 7. Process

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### 8. Degree

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### 10. Kinds

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### 11. Strategy

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### 13. Cutting point

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### 14. Means-goal

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<td>Social beliefs</td>
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<td>Social sentiments</td>
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16. Consensus
Clusters
Agreements
Contracts
Definitions of the situation
Opinions
Conflict
Perception
Cooperation
Homogeniety-Heterogeniety
Conformity
Non-conformity
Mutual expectations

17. Mainline
Social control (Keeping people in line)
Recruitment (Getting people in)
Socialization (Training people to participate)
Stratification (Sorting people based on criteria)
Status passage (Moving people along)
Social organization (Organizing people into groups)
Social order (Keeping organization of life normative)
Social institutions (Clusters of cultural ideas)
Social interaction (People acting with people)
Social worlds (Symbolic surround of life)
Social mobility (People moving through society)

18. Theoretical
Scope
Integration
Conceptual level
Relationship to data
Relationship to other theory
Clarity
Fit
Relevance
Utility
Inductive-Deductive balance
Multivariate structure
Theoretical codes
Interpretative
Explanatory
Ordering
Structural (Unit Size)
Temporal (One thing or category leads to another)
Conceptual (Flow of concepts in specific directions based on values)
General

19. Organization
Division
Group
Team
Person
Example 2-Revised coding sheet

**Communication: 10000**
- Burdens: 10100
- Expectation: 10200
- Acceptance and compliance: 10300

**Mainstream: 11000**
- Social order (normative): 11100
- Social interaction: 11200
- Social worlds: 11300
- Status passage: 11400

**Conditions: 12000**
- Family isolation: 12100
- Other isolations: 12110
- Connection to others: 12200
- Connection to books: 12230

**Consequences: 13000**
- Anticipated: 13010
- Unanticipated: 13020
- Outcomes: 13030

**Strategies: 14000**
- Problem solving: 14100
- Tactics: 14110
- Techniques: 14120
- Maneuverings: 14130
- Means: 14140
- Handling: 14150

**Contingencies: 15000**
- Types of experiences: 15100
- Visual illustrations: 15200
- Photographs: 15210
- Printed materials: 15220
- Films: 15230
- TV: 15240
- Library: 15250

**Cutting Points: 16000**
- Boundary: 16010
- Critical Juncture: 16020
- Turning point: 16030
- Breaking point: 16040
- Tolerance Levels: 16100

**Motivation: 17000**
- Extrinsic: 17100
- Intrinsic: 17110
- Self-determined: 17120
- Independence: 17210
- Helplessness: 17220

**Process: 18000**
- Stages: 18010
- Phases: 18020
- Progressions: 18100
- Transitions: 18200
- Steps: 18210
- Degree: 19000
- Continuum: 19010
- Critical Juncture: 19020

**Causes: 19000**
- Sources: 19010
- Reasons: 19020
- Explanations: 19030

**Cultural: 20000**
- Social Norms: 20010
- Social Values: 20020
- Social Beliefs: 20030
- Social Sentiments: 20040
Example 3-Final Coding List

**Reading**
- Reading Associations: EXP-ASCR
- Reading Experiences: EXP-R
- Reading Inferences: EXP-Infer
- Reading Transitions: EXP-TR
- Reading-Reflection: EXP-Reflect
- Reading-Repetition: EXP-Rep

**Strategies**
- Strategies-General: PC-Gen
- Strategy Bridging: PC-BR
- Strategy-Interactions: PC-INT

**Social**
- Social-External experiences: SC-EXP
- Social Isolation: SC-ISO
- Communication Mode: CM-M
- Communication Experiences: CM-EXP

**Motivation**
- Self-Determination: MOT-SD
- Extrinsic motivation: MOT-EX
- Intrinsic motivation: MOT-IN
- Time: MOT-Time

**Demographics Background**
- Demographics-General: BC-DM
- Identity: BC-DMI
- Schools: BC-SL

**Other Data**
- Consent: BC-C
- Closing: BC-CL
- Base Data-Age: BD-Age
- Base Data-Amplification: BD-AMP
- Base Data-Captioning: BD-CAP
- Base Data-Cause of Deafness: BD-CD
- Base Data-College: BD-COL
- Base Data-K-12: BD-K12
- Base Data-Interpreters: BD-INT
- Base Data-Location: BD-LOC
- Base Data-Work: BD-WK
Appendix C: Memo Sample

March 7, 2012-Memo 3

The following emerged as potential coding categories in the first sweep of interview 01.

Communication
burden/expectation/acceptance and compliance

Mainstream
social order(normative)
social interaction/social worlds/status passage

Conditions
family isolation/other isolations/connection to others/independence/helplessness

Consequences
visual illustrations/photograph illustrations/printed materials

Contexts
problem solving

Contingencies
Types of experiences/

Covariances

Motivation
extrinsic/intrinsic/self-determined

The core variable may be related to communication, as the initial interview seems to point in this direction. It is something to think about and work through the possibilities that the conditions an individual is exposed to leads to motivation or amotivation to address the consequences of those conditions depending on the context in which the lived experience is placed.

Contingencies and covariances are not clear at this point and may emerge as the process continues.

Process is a key word to keep in mind.

Variations is another key word to keep in mind due to the lack of homogeneity within the deaf population related to individual achievement regardless of similar hearing loss parameters and also types of experiences that each deaf individual encounters. Also, the depth or richness of the experiences that either promotes independence or helplessness needs to be noted if it emerges.
Locate: Context: meaning resides within these zones of experience and contiguity

Levels of observation

- Concept formation
- Interplay
- Levels of observation

- Levels of observation
  - Direct
  - Indirect
  - Simple
  - Complex

The genesis of any theory is best described as a reciprocal development of observational sophistication and theoretical precision (Lachmann, C. Lang. & Sociology. Columbia U.P. 1971, p. 61)

Reduction: Start from observation of a phenomenon - reasoning from data that can be explicable if a statement can be shown to be true. P = EK if K is true

Theories put phenomena into systems. Reductively, a theory is a cluster of premises.

Analytic induction: from which a conclusion is drawn.

- What is essential
- Abstract these areas
- Constants
- Compare/contrast
- Negate
- Theoretical Conception

Clusters

Patterns

Conclusions in search of premises
Appendix E: Mind Maps

![Centered image diagram showing a mind map with various categories and connections related to deaf learners and their educational contexts. The diagram includes sections on English Focus, Deaf Persons, Bilingual Perspective, Defining Deaf, and Cultural and Situated Cognition.]