

The Relationship Between the Implicit Theories of Intelligence and Reading Theory of
Preservice Teachers in Master's Level Deaf Education Preparation Programs

A Dissertation
SUBMITTED TO THE FACULTY OF THE
UNIVERSITY OF MINNESOTA
BY

Justin M. Small

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF EDUCATION

Dr. Jean Stevenson

May, 2018

Acknowledgements

This dissertation would not have been possible without the help several individuals...

Dr. Jean Stevenson, whose mentorship and in-depth discussions on literacy have been instrumental in the development of my journey toward becoming a researcher.

Dr. Christopher Jon Heuer, whose support and ongoing discussions over many years has led me to this monumental milestone.

Dr. Nancy Diener & Dr. Christopher Johnson, who provided guidance on my committee and numerous times provided a lens that informed my research.

To every faculty member of the Ed.D. program at UMD, whose teachings drew me to taking on this quantitative research project and providing the challenges in the pursuit of knowledge. I would not be here without each of you sharing your insights and challenging me to dig deeper and ask the right questions.

St. Catherine University Staff and Faculty in the ASL & Interpreting Department who nudged me along and checked in on me in times of stress while writing this dissertation.

My parents, for your support and for teaching me that the value of education, and the pursuit of knowledge was always in my grasp regardless of the obstacles I faced.

Bruce and Jean, your continued support of my education and lending a listening ear will remain with me always.

To the all the folks I met in 4D wherever you are, even though we were considered the “lost cohort,” forever with me in life you are.

Dedication

This dissertation is dedicated to my wife Kristin Small, and to our sons Connor and Jay.

To Connor: Within a day of your birth, I met with Dr. Joyce Strand in hopes of beginning this program, Dr. Strand asked me, “why are you here if your son was just born?”, my answer was “to get into this program and continue my pursuit of knowledge and to show my son nothing is impossible regardless of obstacles or others who do not believe you can achieve.” Someday son, you will understand why papa was always busy and working so hard to finish this research, you too will see the value of pursuing knowledge as you are preparing to leap into kindergarten, and I am graduating a doctoral program. Be forever curious and inquisitive as you are.

To Jay: Son, you were born right at the tail end of my courses in this program, you too have seen papa work hard to complete this research, crawling on papa while he works at times and being inquisitive as to what I was doing. Your curiosity and vigor inspire me always. Be forever curious and inquisitive and seek knowledge and remember, *tabula rasa*, each day is a clean slate to learn anew.

To Kristin: Oh, where do I begin? These past five years culminating in the completion of this research, there doesn't exist a dictionary with the proper words to fully write with regards to your patience in order to fully thank you for your support and your guidance. The countless hours you spent with our boys when I needed to focus can never be measured or quantified simply. You have sacrificed so much in this process, no dedication I could write could do justice to your strength and patience and unfailing support in my pursuit of knowledge.

Abstract

Deaf and Hard of Hearing (D/HH) teachers' personal implicit theories of intelligence and the influence this has on their theoretical orientation toward reading, are factors in teaching deaf students. These factors are not well understood or researched. Research regarding literacy in deaf education has primarily focused upon the student. There has been little focus on the theoretical orientations of reading that the teacher holds and the impact these held theories may have in deaf education. The researcher conducted a study of preservice teacher candidates in master level D/HH programs in the contiguous 48 states of the United States to see if a relationship existed between the Implicit Theory of Intelligence and the Theoretical Orientation to Reading Profile. The researcher used The Implicit Theories of Intelligence Scale (ITIS) and the Theoretical Orientation to Reading Profile (TORP) questionnaire that were provided to students in 34 master level D/HH preparation programs, which resulted in a sample of 35 respondents. Quantitative, statistical analyses of responses were completed to seek correlations between the two theories as well as correlations between the questions on the scales themselves. The results of these analyses indicated correlations between the ITIS and the TORP sum scores of the respondents. In addition, correlations were found between the sum scores and questions on each scale as well as between the questions on the scales themselves. The data supported the research question that the Implicit Theory of Intelligence teachers hold impacts the reading theory they ascribe to.

Table of Contents

Acknowledgements.....	i
Dedication.....	ii
Abstract.....	iii
Table of Contents.....	iv
List of Tables.....	vi
List of Figures.....	vii
Definition of Key Terms.....	viii
Chapter 1: Introduction.....	1
Background of the study.....	1
Statement of the problem, purpose of the study, and research question.....	7
Chapter 2: Review of the Literature.....	9
Implicit Theories of Intelligence Rationale.....	9
Entity Theory of Intelligence.....	10
Incremental Theory of Intelligence.....	13
TORP and Teacher Beliefs regarding reading instruction.....	16
Literacy issues in Deaf Education.....	22
Current Issues pertaining D/HH teacher preparation programs.....	27
Chapter 3: Methodology.....	33
Research Design.....	33
Sample and Sample Size.....	33
Procedures.....	35
Variables and Measures.....	37
Implicit Theory of Intelligence Scale.....	37
Theoretical Orientation to Reading Profile.....	38
Data Analysis.....	39
Reliability and Validity.....	40
Chapter 4: Results.....	41
Survey Sample.....	42
Quantitative Data: Bivariate Correlational Analysis.....	44
Reliability.....	60
Summary.....	60
Chapter 5: Discussion.....	61
Discussion of major findings.....	61
Findings between ITIS and TORP questions.....	62
Reading Theory.....	64
Incremental Theory.....	67
Summary of Major Findings.....	68
Limitations.....	68
Implications for future research.....	70

Conclusion.....	73
References.....	75
Appendix A: IRB approval letter.....	85
Appendix B: Survey with Consent Form.....	87
Appendix C: Implicit Theories of Intelligence Scale.....	105
Appendix D: Mindworks Permissions.....	106
Appendix E: Theoretical Orientation to Reading Profile.....	107
Appendix F: Wiley Global Permissions.....	110
Appendix G: List of Schools Contacted.....	111

List of Tables

<u>Table</u>		<u>Page</u>
1.0	Description of Participants.....	42
2.0	Question Response Summary ITIS.....	45
2.1	Question Response Summary TORP.....	46
3.0	Bivariate Analysis of Sum Scores of ITIS and TORP.....	51
3.1	Bivariate Analysis of ITIS Questions.....	53
3.2	Bivariate Analysis of TORP Questions.....	54
3.3	Bivariate Analysis of ITIS and TORP Questions.....	56
3.4	Bivariate Analysis of TORP Questions with ITIS Sum Scores.....	58
3.5	Bivariate Analysis of ITIS Questions with TORP Sum Scores.....	59

List of Figures

<u>Figure</u>		<u>Page</u>
1	Participant Implicit Theory of Intelligence Range Scores.....	50
2	Participant Theoretical Orientation to Reading Profile Range Scores...	51
3	Bivariate Correlation Coefficient Scatterplot.....	52

Definition of Key Terms

The terms defined in this section are general consensus terms. Some are derived from the National Association of the Deaf (NAD) (2018). While there are some terms that may exist in contrast to these definitions, they are defined as they apply to this research and in no way are encompassing or definitive.

aural/auditory- is an approach in deaf education that focuses on residual hearing and speech with the goal of developing spoken language.

Bilingual program- A program that prepares teachers to achieve a specific level of fluency and curricular competency in both English and American Sign Language (ASL) as established by the program's assessment benchmarks in order to prepare teacher candidates to work with D/HH students from birth to age twenty-one.

Comprehensive program- A program that prepares teacher candidates to work with various student needs and settings, offering as many courses in using aural/auditory approaches as they do in ASL as they prepare teacher candidates to work with D/HH students from birth to age twenty-one.

Deaf- Refers to a particular cultural group of deaf people who share a language, American Sign Language (ASL) and community (NAD, 2018).

deaf- Refers to the audiological condition of not hearing (NAD, 2018).

Deafblind- Refers to individuals who are Deaf, deaf, hard of hearing as well as legally blind.

deaf education- is an encompassing term that is used to define the body of education that serves students who are Deaf, deaf, hard of hearing, Deafblind, aural/auditory.

Hard of Hearing- Refers to a particular group of people with mild to moderate hearing loss, they may or may not have an affiliation with Deaf or the Deaf community, they also may or may not use ASL (NAD, 2018).

Chapter 1

Introduction

Background of the study

Deaf and Hard of Hearing (D/HH) teachers' self-implicit theories of intelligence and the influence this has on their theoretical orientation toward reading, are factors in teaching deaf students that are not well understood or researched. Previous research regarding content teachers has shown what theory some individual holds is an important factor, even more so for teachers, who often teach in accordance with their beliefs regarding content and pedagogy. Myers, Nichols and White (2003), showed that a teacher's discipline could influence her preference for an entity or an incremental theory of intelligence (Jonsson, Beach, Korp, Erlandson 2012). Furthermore, Garberoglio, Gobble and Cawthon's (2012) research showed teacher attitudes and beliefs are underexplored areas within the field of deaf education. Garberoglio et al. (2012) point out that there are researchers (Marlatt, 2002, Marlatt, 2004b, Pagliaro & Kritzer, 2005, Wood, 1998) who have shown deaf teachers have a tendency to shift their teaching orientations toward one of subordination, in effect potentially lowering expectations of deaf students in the process. Teller & Harney (2005) studied deaf education teacher preparation programs and noted these programs rely upon behaviorist management styles in the classroom.

To expand this research and explore deaf and hard of hearing (D/HH) teacher candidates' beliefs and theoretical reading orientations they ascribe to, is to look at the implicit theory the teacher holds as this provides a glimpse into why and how they choose the theory of reading they ascribe to in their teaching. Individuals often develop their

belief system in a way that will give meaning to and organize their perception of the world. Dweck (2000), terms this “meaning systems,” meaning different individuals will create different meaning systems in the process of developing their perceptions. Dweck (2000) developed two frameworks showing how one may understand intelligence and achievement. During her research she identified two theories of intelligence, one that promotes mastery-oriented qualities and one that does not promote mastery-oriented qualities. Further, Plaks, Grant & Dweck (2005) noted “most people possess basic theories about the fixedness or malleability of human personality” (p. 246).

Dweck (2000) challenged four commonly held societal beliefs relating to intelligence and academics. The first was the belief regarding students with high abilities and the notion that they will exhibit mastery-oriented qualities. More often than not, a teacher perceives these students to be highly skilled and able to take on challenges and therefore maintain an ability to overcome challenges. However, these students most worry about failing and being perceived as failures. The second belief challenged, was the belief that academic success directly promotes the mastery-oriented qualities. Dweck (2000) points out that success itself has little impact regarding students seeking out challenges or the ability to overcome a challenge presented to them. The third belief challenged, was the belief of providing praise, more specifically the praise of students’ intelligence fostered mastery-oriented qualities. Parental praise is a hallmark of childrearing. It is only appropriate that teachers use praise in the classroom. Praise, according to Dweck (2000) is the type of praise that alludes to telling a child how smart she is. This praise is often presented in a way that a teacher might hope will inspire confidence. The fourth belief challenged by Dweck (2000), is the belief that students’

confidence regarding their own intelligence is a key toward mastery-oriented qualities. It would be appropriate for one to think that a student who has confidence in her intelligence, would believe herself to be smart, and therefore would not fear challenges and failure. Dweck (2000) does not undermine nor discount any of these beliefs, she shows the erroneous aspects of these beliefs through two frameworks that foster mastery-oriented qualities.

Research has further shown that adolescents who ascribe to an entity theory, (this type of implicit theorist believes intelligence to be a fixed trait), shifted focus on the abilities they have and sought out positive feedback from their teachers as it directly related to their abilities on a task (Blackwell, Trzesniewski, & Dweck, 2007, Dweck & Leggett, 1988; Kammrath & Dweck, 2006). Researchers noted that individuals who hold the entity theory of intelligence were more likely to avoid challenging tasks and explore the easiest route that would produce positive feedback as it directly relates to their abilities. When resistance or failure surfaced during the task there was more often a tendency to give up on the task. It was noted in the research that a “helpless pattern” would manifest within the entity theorists as they experienced situations that were increasingly difficult. Doubt regarding one’s ability would be prevalent in the entity theorist, which then produced a learning barrier often resulting in anxiety, frustration, reduced academic performance and a feeling of irrelevance. Researchers showed that those who ascribed to an incremental theory of intelligence, (these theorists believe intelligence to be malleable), focused on improving their ability to complete a task when faced with the same resistance of failure, instead of validity on their ability, the incremental theorist tended to seek out feedback regarding the task and how to improve.

While this research is focused on adolescents, it gives an insight into how an entity or an incremental theorist behave and approach situations. How a teacher engages her implicit theory of intelligence can produce an impact on the difference between an active and a passive approach with students when resistance to the possibility of failure is present

Researchers have looked at teacher attributions as the attributions relate to their perception of their students. Implicit theories then might offer a powerful lens in looking at teacher responses in a stressful environment such as the D/HH classroom. This is explored later in this section based on research by Easterbrooks and Alvarez (2013). Researchers have found if information is threatening in any manner to the identity of an individual, when combined with the incremental theory, the threatening information can be reworked into positive motivation as well as positive emotional coping mechanisms resulting in perseverance and resilience when resistance and failure is present. This then results in social interactions that are positive in nature (Dweck, 2008; Dweck et al., 1995; Molden & Dweck, 2006; Tamir et al., 2007). This is an important distinction to note, for if teachers are confronted with a stressful and/or undesirable classroom outcome which can be prevalent in a D/HH classroom, it is then possible the entity theorist would believe the student to be incapable of improving her reading abilities and thus choose a curriculum or approach toward reading instruction that maintains a status quo, whereas an incremental theorist would possibly work to preserve and find ways for the student to improve by seeking out innovative curriculum approaches or a more comprehensive approach for instruction promoting mastery oriented qualities in the student. This aspect has not to date been addressed in deaf education research.

The choice of reading theory one ascribes to in their teaching acumen is of importance. According to Vacca, Vacca, Gove, McKeon, Burkley, & Lenhart (2006) there are three most commonly held beliefs regarding reading instruction: Bottoms-up, top-down, and interactive approaches to reading. These are curriculum perspectives that can be further broken down into instructional approaches. According to Vacca et al. (2006) a teacher who ascribes to a bottom up approach is a teacher who has a belief that students need to be able to decode words and letters from what they are reading prior to being able to construct any meaning from the passages presented to them. This type of belief system in reading has a tendency to focus on phonetic based aspects and the emphasis is on the reading skills component. The instruction has a tendency to be sequential and systematically conveyed in the act of teaching. There are two ways a teacher may approach students utilizing these skills. One is through a phonetic based approach, which is to correct oral errors the student makes while reading or have the student read a passage repeatedly to develop word recognition. The second belief system according to Vacca et al. (2006) is known as top down. This system generally focuses on reading for meaning. The teacher engages the students in reading, writing, speaking and listening as components to their process toward learning to read. Teachers utilizing this approach may allow the student to choose reading materials that matter to the individual, focus is often put on the sentence structure, paragraphs and text selection. The third belief according to Vacca et al. (2006) is one of an interactive approach. Teachers who ascribe to this approach fall between the bottom up and top down belief systems. Teachers will recognize that phonetics are important as is reading for meaning. Teachers who ascribe to the interactive approach emphasize speaking, listening, reading and writing as

components that help students learn to read. Teachers who ascribe to an interactive approach may find a greater balance between immersion and garnering meaning, as well as developing the strategic skills of their students.

For the purpose of this study regarding theoretical orientations toward reading, DeFord (1985) focuses on three theoretical aspects related to teaching reading. These theoretical aspects are skills, phonics and whole language. DeFord's theoretical orientation to reading profiles (TORP) will be further explored in the review of literature. The skills and phonics approaches are closely related to the bottom up belief system. The whole language approach is closely associated to the continuum of the top down belief system. The TORP is used to look at a teacher's belief system as it relates to reading instruction and how it expands the thinking process of the teacher. Teachers having a conscious knowledge of their theoretical belief is necessary to help them understand their instructional approach and curriculum selection.

Easterbrooks & Beal-Alvarez (2013) note two ways D/HH students struggle with printed materials. They struggle with learning how to read and struggle with content related print materials within content related classrooms. In essence, if D/HH students struggle with learning to read it stands then to reason that they are unable to read to learn essential information. It is the responsibility of the teacher to find ways to teach this population of students how to read, along with teaching students strategies for comprehending printed material which may be at a difficulty level above their current literacy level. Teachers are tasked with this along with the contextual layer of evidenced based practices which are mandated by the Individuals with Disabilities Education Improvement Act of 2004 and most recently the Elementary and Secondary Education

Act reauthorization of 2015. The challenge that persists in deaf education according to Easterbrooks & Alvarez (2013) is that there exists a lack of evidence-based practices within the teaching community as it relates to deaf education. This is due to the diverse population of learners within deaf education due to the increased numbers of D/HH students taught in the general education environment in contrast to what historically were separate standalone deaf education programs/schools. Easterbrooks and Alvarez (2013) cite information from the U.S. Department of Education (2009) and Gallaudet Research Institute (2008) that based on early identification programs and a shift in listening technology as well as homes in which English may not be the first language used by the student, D/HH learners are bringing a range of strengths and weaknesses to the educational system and to the process of learning to read. Easterbrooks & Alvarez (2013) note that a one size fits all solution to D/HH learners is not viable, as the teacher must take into consideration a range of hearing loss amongst the students as well. Adaptation is of utmost importance. This adaptation becomes essential when one considers the teachers' implicit theory of intelligence and their ability to encourage or not encourage mastery-oriented qualities in students. The implicit theory teachers hold then may influence the curriculum choices they make.

Statement of the problem, purpose of the study and research question

The purpose of this correlational study is to examine the relationship between teacher candidates' Implicit Theory of Intelligence and Theoretical Orientation to Reading Profile. Using Dweck's model of Implicit Theories of Intelligence and DeFord's model of Theoretical Orientation to Reading Profile (TORP) as foundations, examining teacher candidates in current deaf and hard of hearing education training programs, a

relationship between the type of implicit theory teacher candidates possess and their theoretical orientation to reading will be explored. It is believed that the type of implicit theory teacher candidates possess may have an impact on how they perceive and interact with their students. This may also determine the approach they use to teach reading to D/HH students. As noted at the beginning of this chapter, this aspect of teaching D/HH students reading has yet to be explored. The question being explored is: Do the teacher candidates' Implicit Theories of Intelligence influence their reading theory expectations about and goals for their future students?

Chapter 2

Review of Literature

This chapter reviews research, theories and issues pertaining to D/HH teacher preparation as well as deaf literacy. The chapter begins with an introduction and rationale for utilizing the Implicit Theories of Intelligence. The parts that follow relate to the two main theories guiding this research, the Implicit Theories of Intelligence (Dweck & Leggett, 1988; Dweck, 1999), the Theoretical Orientation to Reading Profile (TORP) (DeFord, 1985) and teacher beliefs and efficacy. This chapter also touches upon preservice teachers, literacy issues within deaf education, along with understanding current issues in D/HH teacher training preparation programs.

Implicit Theories of Intelligence Rationale

While there exist many theories that relate to intelligence and beliefs, the Implicit Theories of Intelligence was chosen for this research. Dweck's (1988, 1999) theories of intelligence are considered a part of the broader study of epistemology. Epistemology is a part of a larger philosophical project that dates back to ancient philosophers, learner epistemology is a more recent project related to classroom pedagogy, student learning, and academic outcomes.

Schommer (1990) points out that Dweck's research is based on the control of how one acquires knowledge. Schommer (1990) also points out that personal epistemology is composed of several independent dimensions as the beliefs about knowledge are too vast and complex to be understood in a single dimension (p. 498). Even Paul & Moores (2010) state there is no agreement, or a difficulty at defining what they term "Deaf epistemologies (p. 418-419)." Paul and Moores (2010) state

Our hope is that the articles in this special issue will provide working perspectives that will stimulate further discussion and research, which subsequently, should lead to the betterment of the educational and social lives of d/Deaf children, adolescents and adults (p. 419).

What Paul and Moores (2010) are alluding to, is the lack of research on epistemologies as they relate to deaf education and d/Deaf individuals. Also, for educators and other professionals to obtain greater insights as to what disagreements exist relating to knowledge attainment in d/Deaf people and deaf education as well as why the disagreements exist. The aim of this research is to take a step in that direction and provide insight as to what implications exist for deaf education and take a step toward exploring the phenomenon of deaf learner epistemology. As will be explained in this and later chapters, due to the complex nature of deaf education, the need for not focusing on a student's ability (Entity Theorists) and the need to address a challenging D/HH student population, the Implicit Theories of Intelligence provides the appropriate lens for this research.

Entity Theory of Intelligence

“Some people believe that their intelligence is a fixed trait. They have a certain amount of it and that's that. We call this an "entity theory" of intelligence because intelligence is portrayed as an entity that dwells within us and that we can't change (Bandura & Dweck, 1985; Dweck & Leggett, 1988).” (Dweck, 2000, 2, Kindle Edition). This type of intelligence theory is one that creates an individual who feels the need to maintain her status quo in terms of how smart she feels. It is often termed a fixed mindset. Dweck, Chiu and Hong (1995) explored the implicit theories and their role in

judgement and reactions. In their research it was shown that an individual who subscribes to an entity theory predicts global ability judgements when presented with failure. The individual also will present a maladaptive and helpless pattern when it comes to coping with failure. Jonsson, Beach, Korp & Erlandson (2012) studied 226 Swedish high school teachers in terms of their self-reported measures of intelligence to determine a preference for entity or incremental theory. In relation to the entity theory, particularly in mathematics, teachers had a tendency to favor students who held an entity theory of intelligence. Teachers possessed the perception that mathematics represents an inborn ability. It was shown that younger, less experienced and older, more experienced teachers showed a stronger preference for the entity theory of intelligence. The authors note a study by Woolfolk-Hoy et al. (2006) which suggested that older and more experienced teachers develop the entity belief as they begin to determine that learning is dependent upon aspects that are not within their direct control. The opposite was pointed out regarding younger and less experienced teachers in that the aspect of political correctness and conformity to group (in this case more influence by older more experienced teachers) contributes to their preference for entity theorists in the classroom. Researchers (Jonsson, Beach, Korp & Erlandson, 2012; Beach, 2003; Beach and Dovemark, 2007; Braten & Stromso, 2004; Calderhead, 1996) have shown that entity theories do not benefit student learning.

King, McInerney, Watkins (2012) researched how people think about their intelligence determines how they feel in school. The researchers looked at theories of intelligence and the impact that it has upon students' emotions in academics. In terms of the entity theory of intelligence, the researchers failed to predict positive academic

emotions. These results disconfirmed their first hypotheses of the study because the entity theory was found to cause negative academic emotions. This was shown by a significant amount of variance amongst all of the negative emotions presented in the study. The study showed that when teachers had an entity theory, the sense of control over an academic task was lower due to the presumption of the individuals believing their intelligence to be a fixed trait.

Rattan, Good & Dweck (2012) studied mathematics instructors who held entity theories of intelligence. From their study it was found those who held an entity theory as it relates to math intelligence, perceived students as having a low ability. This was based on a single poor performance on a math task. It was also found that those who held an entity theory as it relates to math intelligence, engaged in commiseration type feedback due to the perception of the low ability. This resulted in the instructor implementing pedagogical practices which potentially reduced overall engagement with the study participants. Holding this entity theory led to a tendency for the instructor to counsel students out of math related subjects. It was shown that it was not just the instructor's held belief of math intelligence as being a fixed trait that failed to consider the best interest of the students, it was the fixed view of the instructor ultimately leading to unproductive feedback. Well-meaning feedback that provides comfort to the students as an attempt to help the students 'feel good' about their failure, can be damaging to student motivation in the long run.

Yorke & Knight (2004) posited ideal types relating to teacher and student implicit theories of intelligence. One of the ideal types, the teacher and the student both hold an entity theory. The resulting belief system then does not allow for the development of

intelligence or self-efficacy. Feedback becomes stagnant and does not contribute to a student's ability to learn and engage. Yorke & Knight (2004) also posited another ideal type in which the teacher has an entity theory and the student has an incremental theory (to be described later in this chapter), the teacher engages in the belief that nothing can be done to bring about change in the student or academic situation. In this instance feedback is then typically passionless (teacher) and not taken seriously (student), even if the student holds an incremental theory of intelligence, based on the teacher's entity view, his incremental view, self-beliefs, and willingness to work hard could erode over time due to the passionless stance taken by the teacher. Yorke & Knight (2004) point out that the student's incremental theory can transcend the teacher's entity theory and can achieve despite the fixedness of the teacher's view and approach in some instances.

Incremental Theory of Intelligence

Other people have a very different definition of intelligence. For them intelligence is not a fixed trait that they simply possess, but something they can cultivate through learning. We call this an "incremental theory" of intelligence because intelligence is portrayed as something that can be increased through one's efforts (Bandura & Dweck, 1985; Dweck & Leggett, 1988). (Dweck, 2000, 3, Kindle Edition).

This type of intelligence theory is often termed malleable, or growth mindset (Dweck, 2006). The principle of the incremental theory is one in which the individual believes intelligence can be increased through effort and by acquiring knowledge. In contrast to the entity theory, individuals who ascribe to the incremental theory are less concerned about the status quo and looking or feeling intelligent in the presence of others. King et

al. (2012) found that incremental theorists believed their personal effort on a task resulted in improved outcomes. The authors found an increased sense of control, due to the ability of the individual, to shield himself from negative academic emotions. Mueller, Dweck & Kruglanski (1998) researched praise given for intelligence and the impact it had on children. They showed that when praised for hard work, which is a belief of incremental theorists, children were led toward a more incremental theory of intelligence. It was shown that the children then did not seem to view intelligence as resulting from any single performance measure. It was also shown: “These children did not appear to consider intelligence to be determined from any single performance and were found to avoid the post failure achievement decrements of their intelligence praise counterparts” (Mueller, Dweck, & Kruglanski, 1998, p 49). In the presence of failure, the children were able to persist through failure rather than experience and view each failure as a setback or distress in their academic achievement.

Lynnott & Woolfolk (1994) researched teachers’ implicit theories of intelligence and the impact on their educational goals. The subjects of this research were split between preservice and practicing elementary teachers. The research found that teachers who viewed intelligence as malleable or, according to the article, “modifiable”, the higher the teacher rated practical skills as well as social skills as characteristics of intelligence. Practicing teachers, overall tended to rate the social aspects. Lynnott & Woolfolk (1994) noted that preservice teachers could potentially be influenced by their perspective as students themselves versus being practicing teachers who may be influenced by pedagogical perspectives and therefore less likely to see the social aspects

as components of intelligence. The implications of this could be the lack of the preservice teachers' awareness regarding their own implicit theory of intelligence.

Jones, Bryant, Snyder & Malone (2012) researched preservice and in-service teachers' implicit theories of intelligence. They noted holding an incremental theory of intelligence, much like Lynnott and Woolfolk (1994), to "...value practical skills (e.g., developing technical knowledge and mastering basic skills) and social behaviors (e.g., fostering cooperation) as indicators of intelligence than teachers with entity views" (p. 89). It was found that about a quarter of the 270 preservice and in-service teachers, sampled from two large public universities and one large private university, viewed intelligence as a fixed trait. This is problematic in the classroom, since according to Dweck (2006) an essential characteristic of effective teachers should be promoting and implementing in their classrooms is a growth versus a fixed mindset. If the classroom environment is losing the practical and social skills component of intelligence which are hallmarks of the incremental theory, it is possible, then, that students are not being encouraged to utilize all components in their academics to succeed. Many of the teachers in the Jones et al. (2012) study viewed intelligence to be malleable, which is promising, since the teachers' view has been shown already to affect the students' belief regarding their own intelligence.

In writing about the social cognitive approach and its effect on motivation and personality in children, Dweck and Leggett (1988) in a review of literature posited generalizations to the model of the implicit theories of intelligence in conjunction with other domains such as social motivation, external attributes and perceptions of control. In terms of social motivation and goal orientation, the goal of incremental theorists is to

increase social competency. The behavior pattern of the incremental theorists is to seek out challenging tasks to become mastery oriented in their approach toward learning. Incremental theorists view the social and external attributes as a malleable quality that can grow and change over time. In terms of goal orientation, incremental theorists attempt to understand others and develop their own theoretical insight through learning by working to improve others' attributes as well as their own. The behavior of incremental theorists is directed toward mastery-oriented goals. The aim is to engage in process analysis as it relates to cognitive patterns and then to display empathy as it relates to affect. As it relates to their perception of control, incremental theorists view control over events as a possibility, should their perception of attribution regarding control be high and their perceived attribution of control be low. They have a tendency to view control as a possibility however, perceive that locus of control being achieved through time and effort. While these are generalizations created by Dweck and Leggett (1988) they align with what has been shown to be true of incremental theorists.

TORP and Teacher Beliefs regarding reading instruction

The Theoretical Orientation to Reading Profile (TORP) was developed by DeFord (1985). The purpose of the assessment tool was to determine teacher beliefs regarding reading practices as they relate to reading instruction. It reflects beliefs in various basal reading series representing areas of phonics, skills, whole language. It is a 36-item assessment tool that has statements regarding reading and reading instruction. Each of the items is measured by a five-degree Likert scale that ranges from strongly agree to strongly disagree. In validating the instrument, DeFord (1985) noted that while teachers could respond to items on the TORP in a particular manner, they could engage in practice

that was different from their theoretical orientation. DeFord (1985) suggested that further research was needed in areas that examined factors that influence teachers' long-term makeup of their theoretical orientation. DeFord (1985) also suggests further research was needed in the area of material mismatch based on theoretical orientations. If teachers hold a particular orientation toward reading and are utilizing materials that are not congruent with that theoretical belief, conflict could arise that impacts decision making. It is logical then to think implicit theories of intelligence could have an impact on what types of theoretical reading orientations teachers choose based on the pedagogical decision-making process.

Ketner, Smith & Parnell (2012) researched a relationship between the TORP and endorsement of developmentally appropriate practices. Ketner et. al (2012) point out that developmentally appropriate practices are rooted in two complementary components, the first is material that is appropriate to age and the second is material that is appropriate to the individual. Four factors that most affect teacher beliefs in relation to developmentally appropriate practice according to Ketner et al. (2012) are having a degree in either child development or early childhood education, content areas that are taught in teacher education programs, the curriculum models as they relate to observing and recording student behaviors, and finally a combination between practical experience and child centered training. Ketner et al. (2012) utilized DeFord's (1985) TORP as the basis for their research. Several researchers have proposed (DeFord, 1985; Duffy & Anderson, 1982; Richards, Gipe, & Thompson, 1987) that the theoretical orientation one identifies with regarding reading instruction, guides teachers toward their choices for teaching reading. Ketner et al. (2012) indicate the scores for the TORP range from 28 to 140;

scores in the range of 28-65 fall within the phonics orientation, scores between 66 and 110 falls within the skills orientation, and scores between 111-140 fall within the whole language orientation (p. 215). What was found is that teachers who endorsed developmentally appropriate practices, tended to lean toward the whole language orientation for reading instruction (Ketner et. al, 2012). It was also found that 89% of the TORP scores from Ketner et al. (2012) fell within the skills orientation, therefore, teachers tended to lean toward more traditional practices for reading instruction. This is important to note as it is possible according to Ketner et al. (2102) that traditional reading instruction is more resistant to change as many teachers are instructed and grow up embedded in this traditional perspective. Ketner et al. (2012), based on the strong correlational findings in their study comparing TORP and the Primary Teacher Questionnaire (PTQ), show that the beliefs one holds regarding an aspect of instruction, appear to be consistent with regard to beliefs in other aspects of instruction. This is an important finding for the present study.

Richardson, Anders, Tidwell & Lloyd (1991) researched the relationship between teachers' beliefs and their practices in reading comprehension instruction and found that there is a wide range of agreement in terms of theoretical orientations or approaches and reading instruction among researchers and practitioners (p. 563). Richardson et al. (1991) found a strong relationship in their qualitative study between a teacher's belief regarding reading process as stated in the interviews, and the implementation of reading instruction in the classroom. Richardson et al. (1991) pointed out that there have been many efforts put forth to change reading instruction to include more interactive reading activities similar to those found in whole language approaches, but there were considerable number

of teachers in the study that did not ascribe to the theory that would accommodate such interactive practices. The theories held by teachers showed they focused more on skill-based reading instruction. Richardson et al. (1991) noted there were teachers who attempted to utilize more interactive processes which activated a student's prior knowledge. However, they were weak or ineffective in their capacity to do so. Richardson et al. (1991) found that this was a result of the teachers' lack of understanding of the theory that supported whole language and interactive approaches. The disconnect between theoretical beliefs and the materials used is shown to have a profound impact. A teacher's belief in a particular theoretical orientation as it relates to reading needs to be brought to awareness in order to understand how that belief impacts reading instruction.

Leko, Kulkarni, Lin, & Smith (2015) researched preservice teacher beliefs regarding reading instruction as it relates to students with disabilities. Their goal was to examine the teacher beliefs utilizing a qualitative methodology. Leko et al. (2015) interviewed 11 special education preservice teachers, all females in their early 20's from a large Midwestern university. All of the participants were in either the first or second semester of their junior year. At the time of study, they were enrolled in a reading methods course taught by the principal researcher. The students were interviewed to establish expressed beliefs and beliefs-in-use. The interviews were conducted three times over the course of two semesters. An interesting finding was that the preservice teachers believed reading instruction should motivate students, should be fun, and interesting for the students engaged in reading. The preservice teachers interviewed however, could not provide specific details about how to motivate or make reading fun other than to provide materials that dictate these strategies. This was despite in depth discussions about such

strategies that were held throughout the course they were enrolled in. Leko et al (2015) believed that the view that reading should be fun was a result of the participants' personal experiences and their experiences in the educational system. Leko et al. noted that the beliefs of the teachers were posited from three sources: personal, practical, and coursework. The preservice teachers in the study held strong beliefs due to past experiences and during the study did not change these beliefs. However, they ended up becoming more flexible toward broadening perspectives and a willingness to match the students' needs. This is an important finding as the preservice teachers in the study had their strong beliefs brought to the forefront during the study. This allowed the preservice teachers to become aware of the impact these beliefs can have on their future students. According to Leko et al. (2015) while beliefs can be rooted and complex, pre-service teachers can be made aware of them prior to entering the teaching field.

Applegate and Applegate (2004) investigated the reading habits and attitudes of preservice teachers. They discussed two types of readers (efferent readers and aesthetic readers) based on research by Rosenblatt (1978). According to Applegate and Applegate (2004), based on Rosenblatt (1978) the efferent reader is one who is more concerned with coming away from reading, with information gained from the reading process. The aesthetic reader is an active and immersed participant who lives through the reading, its characters, and the situational aspects the characters are engaged in. Each of these reading styles revert back to similar discussions about incremental and entity theories of intelligence. The level of engagement of the individual in pursuit of knowledge and goals is strikingly different. Applegate and Applegate (2004) also discussed teacher influence. The researchers discussed literature by Ruddell (1995) in which there are two types of

teachers, influential and non-influential. The first being an influential teacher. This type of teacher is more inclined to utilize highly effective strategies that are aimed at motivating students. The goal is to increase the amount of excitement among the student population regarding what is being taught. The influential teacher adapts a more aesthetic stance toward reading (Ruddell, 1995). The other is a non-influential teacher. These teachers have a tendency to utilize strategies that typically will help the student glean information from what is read. The non-influential teacher tends toward a more efferent reading style (Ruddell, 1995). Applegate and Applegate (2004) were concerned with preservice teachers not having a love of reading. The fact that many preservice teachers who were planning to specialize in reading and literacy had no use for reading beyond an academic sense was concerning. Due to classroom instruction being highly driven by one's beliefs and theoretical orientations, teachers have an influence on their students. Applegate & Applegate (2004) reasoned that if a teacher candidate did not have an aesthetic experience with reading it is hard for that teacher to promote such a strategy. It was found in the follow up study that 48.4 percent of readers were unenthusiastic readers. An important note from the study was that students with higher SAT scores were more likely to be classified as unenthusiastic readers, whereas students with lower SAT scores were more often found to be classified as enthusiastic readers. While the discrepancy was only 1.7%, it connects with the implicit theories of intelligences in that students with higher SAT scores may use more efferent strategies, gleaning just enough knowledge to keep their status as a 'smart' individual, whereas the students with lower SAT scores may utilize more motivating factors to gain more knowledge at the expense of appearing

‘smart.’ Applegate and Applegate (2004) state it best regarding preparing teacher candidates:

Institutions that prepare teachers thus have a serious obligation to address the nature of their students' attitudes toward reading. It would be tempting for the faculty in very selective institutions to exhibit confidence in the reading ability of their teacher education candidates. But it is not reading proficiency that distinguishes influential and non-influential teachers (Ruddell, 1995); it is the ability to "encourage children to enter into and transact with the text" (p. 461). If the teachers themselves do not experience this transaction, it is unlikely that they can effectively instruct their pupils to do it. (p. 561)

It stands to reason that teacher candidates may not be fully aware of their beliefs, theories, and approaches and the significant impact this can have on student motivation, attitudes and abilities to read. Implicit theories of intelligence and the beliefs teachers hold have to be brought to the forefront of the teachers' awareness and challenged in order for teachers to be able to teach effectively. Without this awareness, deaf education remains on a stagnant path.

Literacy Issues in Deaf Education

LaSasso (1999) pointed out that in the 30 years prior to her paper, reading levels remained primarily unchanged amongst D/HH readers. LaSasso pointed out that the average 18-year-old at the time of her research was scoring on par with the average eight or nine-year-old, Lasso utilized Moores' (1996) data on SAT norms as a basis. The most commonly cited statistic is provided by Traxler (2000), in which it is noted that 50% of

deaf students graduate with a fourth-grade reading level or possibly lower than this. This is a statistic that is often misinterpreted in the field of deaf literacy. Seaver (2014) conducted an interview with Dr. Marc Marschark in which he clarifies the issues regarding the Traxler (2000) statistic. Marschark noted that Traxler (2000) was stating the median which is 50% above and 50% below, which essentially shows that 50% of deaf students are reading above the stated fourth grade reading level. It is quite easy for individuals to misinterpret and state that deaf students are reading at a fourth-grade level or graduating reading at this level. Marschark goes on to discuss the lack of cognitive skills needed for reading comprehension. Students not having the cognitive skills to comprehend what is read is a critical factor that may be impacting literacy development. Frequent misinterpretation of this data can have a profound effect on the beliefs of teachers as they enter the field of deaf education.

In 2015 the Center on Literacy and Deafness (CLAD) released a summary report on research findings over a five-year period conducted by multiple universities on language and literacy in the D/HH population. The findings pinpointed two issues. The first issue involved the area of vocabulary development and language. The English grammatical structure and the understanding of English syntax were areas of relative weakness, but vocabulary development was a relative strength (CLAD, 2015). The second issue looked at literacy. It was shown that reading comprehension was a relative weakness and single-word reading and letter recognition were relative strengths. This data was culled from kindergarten through second grades across the United States specifically in D/HH programs. The report showed that students who developed phonological awareness, either by speaking or through fingerspelling, had better reading

comprehension than those who did not. What was concerning from the report was that reading comprehension was said to decrease from kindergarten to the second grade. The report does not explicitly state what types of assessments were used to collect the data.

Mayer and Wells (1996) outlined four phases that are components of the process of becoming literate. These phases overlap and create a chaining effect that contribute toward an individual becoming literate. The conditions Mayer and Wells (1996) developed in their research were based on having a linguistic bridge, essentially a way to mediate between each of the phases and maintain proper progress toward language learning situations. The conditions needed to achieve this are to have sufficient exposure regarding quality and quantity of reading material, accessibility toward linguistic input and be based upon meaningful interactions taking place. This would ideally be taking place with capable users of the target language. When looking back at the CLAD (2015) report and the aspect of phonological awareness through fingerspelling, the last condition of Mayer and Wells (1996), interaction with capable users of the target language, becomes important in the literacy development of deaf students. Schick (2015) gave a presentation on fingerspelling and literacy to the University of Arizona College of Education posted on VIMEO. In her presentation she points out that hearing teachers and parents have a tendency to think fingerspelling is a skill that is learned when one is learning to read, hearing individuals have greater difficulty with fingerspelling, and that teachers have a tendency to invent signs to replace the need to fingerspell. Shick (2015) points out that hearing children hear a spoken phonological representation of a word and are able to, through principle decoding, connect this to English orthography. Shick points out that this is not possible with ASL phonological representations of signs, because ASL

syntax and English syntax are two different languages. However, when fingerspelling is utilized there is then a direct representation between the fingerspelled word and the English orthography. Shick points out that fingerspelling has the potential to be utilized as an alternative to spoken phonological awareness, and as an alternative to phonics. If fingerspelling is to be considered an alternative to spoken phonological awareness, it would be important for the teacher to be confident in the use of fingerspelling. If a fear related to fingerspelling exists, then it is possible that fear could reflect an entity theory of intelligence.

Easterbrooks & Alvarez (2013) point out D/HH programs serve generally two populations of learners. The first population consists of those who learn through utilization of American Sign Language (ASL) which is a native language distinct from English, or a hybrid approach which falls into two categories: sign-supported speech in which spoken language is the main conveyer of a message and supported by signs, or speech-supported signs in which the signs are of primacy in message conveyance and accompanied by speech. The second population according to Easterbrooks & Alvarez (2013) are students who learn through spoken communication methods with assistance from Cochlear Implants (CI) and/or hearing aids. Easterbrooks & Alvarez (2013) note that students may fall on a continuum in which some use only speech, others use only ASL, while others fall within a spectrum between speech and ASL usage. Students can and do change their preferred communication methods over time. The teacher must adapt to the individual auditory and communication needs of a student in approaching literacy. Along with consideration of the populations, Easterbrooks & Alvarez (2013) discuss learning environments. In an auditory learning environment, the students are engaged 360

degrees, they have access to multiple avenues of acquiring language, the sounds produced are picked up through auditory means and provide a localization of where to turn one's head in order to identify where to focus for learning. In contrast, the visual environment is limited to 120 degrees according to research by Tasker & Smith (2008) cited in Easterbrooks & Alvarez (2013). This typically means face to face interaction between the teacher and the learner. Peripheral vision, while useful, may only pick up small amounts of meaning in the learning process. Having an awareness of how to teach D/HH students in a learning environment is an important consideration. According to Easterbrooks & Alvarez (2013), the issue lies in the fact that a large number of students attend general education classrooms where only one to two percent of teachers are Deaf themselves, leading to a lack of language models for the student. In addition, the interpreters placed in these general education classrooms have varying degrees of skill and ability to properly engage a D/HH student in a visual environment. According to Easterbrooks & Alvarez (2013) as of 2013 only three states required teachers of the D/HH to pass a sign language proficiency exam. In the State of Minnesota, for example, teachers are expected to achieve a level of Intermediate plus on the Sign Language Proficiency Interview (SLPI). The intermediate plus level according to the SLPI (1999), "Exhibits some advanced level skills, but not all and not consistently." In contrast, the Advanced level according to SLPI (1999)

Able to have a generally shared conversation with good, spontaneous elaboration for both social and work topics. Broad sign language vocabulary knowledge and clear, accurate production of signs and fingerspelling at a normal/near-normal rate; occasional misproductions do

not detract from conversational flow. Good use of many sign language grammatical features and comprehension good for normal signing rate (p. 1).

This is problematic in that a teacher is only expected to have some of the skills of an advance signer but not all of them or consistently. American Sign Language Association (ASLTA), which certifies teachers who teach ASL, must possess a rating of Advanced Plus on the SLPI. To be able to, in the context of learning environments, have the Advanced level consistently would be of importance considering the aspect of teaching students with a wide variety of communication skills. Possessing a broad sign language vocabulary coupled with consistency, would possibly reduce the issues of confidence as discussed above related to aspects of fingerspelling and the aspect of teachers “making up” signs for words.

Current Issues Pertaining D/HH Teacher Preparation Programs

Education of the deaf is ever fluid regarding pedagogy. There are various schools of thought related to pedagogy, such as, but not limited to, Bilingual/Bicultural, oral approaches, ASL only instruction, cued speech and others. There are many issues of quality pertaining to D/HH teacher preparation programs, including visual language ability. These issues must be considered in order to better understand how beliefs and theoretical orientation of teachers may be influenced by the type of training they received.

Humphries & Allen (2008) wrote that there is an unfortunate reality that exists in preparing D/HH teachers. The unfortunate reality is that innovative techniques taken from regular education are quite often ignored, overlooked or simply thought to be too

difficult to implement with the deaf and hard of hearing population. In many instances, instead of looking at theoretical approaches related to pedagogy, research focuses on the aspect of trying to replace what was lost or needs improving, in this case, hearing and speech. Humphries and Allen (2008) attempted to change the view of pedagogy in terms of “special education”, which looks at the students as being developmentally abnormal, to one that looks at the students as emerging language learners. The authors wanted to create an integrated program that was not a standalone program, due to multiple programs closing at the time, but one that fit in with an existing general education program.

Humphries and Allen (2008) note two more distinct ways that training programs prepare teachers. The first is the oral approach. Within the oral approach, sign language is not utilized, nor is it considered an option for the deaf and hard of hearing students. The second most common type of training approach according to Humphries and Allen is one that utilizes signing, ASL, or even a form of manually coded English (often referred to as Total Communication-TC or simultaneous communication-SIM-COM). These types of training programs have a tendency to emphasize assessment that focuses on the development of English as the students’ primary language, as well as the development of understandable speech. Even with ASL utilization in the classroom, there can exist an infrequent focus upon the students’ development of ASL, and shift of focus to English as the primary or only language skill. An issue with this that Humphries and Allen (2008) point out, is that teachers are prepared in a way to work with students whom they are told are “delayed” in most if not all areas of development, and warned that without very specific pedagogical approaches, rooted in special education, the students will not succeed. Training of D/HH teachers then focuses on mastering aspects of psychology as

it relates to deaf individuals and students (behavior modification, auditory training, speech and language therapy) versus actual pedagogy rooted in academic approaches.

Cannon and Luckner (2016) noted that course work in most programs they looked at generally fell within the following categories: “language, literacy, consultation, audiology, speech pathology, aural rehabilitation and sign language in addition to instructional strategies.” (p. 90) The authors pointed out that the main focus of most of the programs was on increasing the auditory and spoken communication access of the students. There are programs that focus on the bilingual/bicultural approach utilizing ASL and highlight Deaf culture as well as ASL proficiency. Looking at Humphries & Allen (2008) and Cannon & Luckner (2016), there are so many D/HH teacher training programs that exist and such a variety that it is difficult to effectively train teachers consistently. Cannon and Luckner (2016) point out through quoting various authors, that from 1986 to 2002 programs have gone from 83 to 70 (Jones & Ewing, 2002) to 69 programs existing in 2010 (Dolman, 2010) to 64 programs in 2015 (Deaf Education, 2015; Paul, 2015). It is worth noting that despite the decline of programs, the ratio of program graduates to deaf and hard of hearing students has remained fairly stable (Dolman, 2010). In addition, Cannon & Luckner (2016) point out sixteen states within the United States and eight provinces within Canada do not have a deaf education teacher preparation program. The issue that arises is that the sixteen states have standards for their deaf and hard of hearing education, may not have properly trained individuals to meet those standards because the teachers being trained teach in accordance to standards of the state in which their training program resides. Where preservice teachers obtain their training can possibly impact their implicit theoretical orientation and beliefs. The

theory and beliefs teachers take with them upon graduating may contradict the belief and approaches of the state they obtain their D/HH teaching licensure, if that state doesn't have an established teacher preparation program.

Johnson (2013) indicated that of the 66 programs in the United States that prepare teachers in the field of deaf education listed on the deafed.net website (a deaf education resource website that keeps a current and updated comprehensive list of teacher preparation programs throughout the United States), it is expected that by 2019 a total of 44 full-time, tenure track faculty are expected to retire (p. 440). In 2016, the author of this study found just 59 programs listed on the website; this will leave an enormous number of open positions and not enough qualified individuals to fill them. Furthermore, Johnson points out, while all deaf education teacher preparation programs must meet state certification requirements, at the time of the article's publication, only 50% of the programs noted were designed to meet both national and state certification requirements set forth by the Council on Exceptional Children (CEC) and the Council on the Education of the Deaf (CED) (p. 440). The lack of qualified candidates is concerning as it contributes to a lack of new knowledge in the field, leaves the preparation of future teachers in a fragmented flux, and presents a lack of ongoing professional development opportunities for those who are currently employed as teachers for the deaf and hard of hearing. Johnson (2013) discusses this very issue. The lack of time and resources for current preparation program faculty leaves a gap for the students graduating, which means they will be graduating without the essential skills to carry on in their new field. Johnson (2013) points out a number of skills that are needed to be able to work with this unique population of students, citing six different research studies showing an array of

skills needed that total approximately but not limited to twenty wide ranging skill categories. What is concerning is the number of these skills that focus on the audiological, behavioral, historical, and socio-cultural aspects rather than academic intervention or pedagogy-based skills the teacher will need to work with deaf and hard of hearing students. This puts almost the entire focus on the student as the “problem” and leaves out the aspect that the teacher can be an issue. The teachers’ lack of broad skills, along with their implicit and reading theory, can have an impact upon student achievement in literacy and other academic areas. Johnson (2013) even points out that many of the teachers lack consistent access to deeper learning opportunities, so they will be able to match learning and instructional goals with the strengths and weaknesses of the students they plan to educate. (p 441).

Johnson (2013) states that an effective teacher is one who understands the following “(a) the process through which learning occurs; (b) the content areas they teach; and (c) the learning strategies, knowledge, interests, and experiences of their students” (p. 442).” Furthermore, Johnson states the most important aspect is the collaboration between the teacher and the students in order to foster and link outside activity to the school work they are engaged in. These are factors of the incremental theory of intelligence in that the teacher recognizes there are multiple ways to increase knowledge and academic skill development. Johnson poses four sequential ways to improve deaf education teacher preparation programs (DETP). Level one is to increase student access, because many programs are significantly under enrolled, the second level is to increase instructional effectiveness. Johnson notes that research has shown the largest factor that influences how teachers teach is not rooted in the classes they take or

the lectures given but more in the practicum and student teaching mentoring opportunities. To be able to enact change in the future, teachers need to be aware of how the implicit theories can impact student engagement. Then as new teachers fill openings, the ones that come after them are further exposed through their practicum experiences to the effects of the implicit theories and their impact. Johnson's third level is related to teacher supply. This is a complex issue due to the closure of programs, confusing reciprocity agreements, and varying standards for deaf education across the United States. The fourth level Johnson presents is related to teacher recruitment, retention and effectiveness. Johnson notes that the goal should not be to simply graduate more teachers, rather the goal should focus upon preparing, recognizing and understanding, as well as collaborating with existing effective teachers in order to allow for students' potential to be recognized. Johnson calls for a focus on being sure licensed teachers are prepared to address the changing dynamics of their students. A teacher with an entity theory of intelligence and a fear of failure, may not have the wherewithal to address this changing dynamic, and therefore as Johnson points out, many teachers drop out of the field within the first five years of the start of their careers. Teacher preparation programs have to be able to accept some failure in making changes. Those who maintain the status quo contribute to the ongoing issues of graduating teachers without innovative pedagogy to address the literacy issues that are facing deaf education. Implicit theories of intelligence and the beliefs teachers hold have to be brought to the forefront of the teachers' awareness and challenged in order for teachers to be able to teach effectively. Without this awareness deaf education risks remaining stagnant.

Chapter 3

Methodology

The current study was conducted to examine the relationship between teacher candidates' Implicit Theory of Intelligence and Theoretical Orientation to Reading Profile of teacher candidates' in Deaf and Hard of Hearing (D/HH) teacher preparation programs. Specifically, the following research question was posed: Do the teacher candidates' Implicit Theories of Intelligence influence their reading theory expectations about and goals for their future students?

Research Design

This study utilized an explanatory design this approach is appropriate since the researcher is interested in the extent that the independent variable, Implicit Theories of Intelligence and the dependent variable Theoretical Orientation to Reading Profile covary (Creswell, 2015). The researcher is interested in is whether there exists a correlation between a D/HH teacher candidates' implicit theory and the type of theoretical orientation the individuals ascribe to in terms of pedagogical approaches to teaching reading.

Sample and Sample Size

Participants consisted of teacher candidates from 34 possible D/HH teacher preparation programs in the contiguous 48 states of the United States, who are currently enrolled in a Master's program specializing in deaf education. The universities targeted to obtain the participants were identified in two distinct ways. The first through a review of a comprehensive list of D/HH teacher preparation programs listed on the DeafEd Teacher Preparation Program site online (DeafEd, 2015), the last update to this list was in April of

2016. The second way for creating a somewhat homogeneous sample, was through contact with experts within the field of deaf education in order to narrow down programs that have similar pedagogical approaches toward deaf education. Six universities responded to the direct request from the researcher pertaining to their enrolled student population. Of the six that responded, a total of 88 potential participants enrolled in a Master's program were identified. This total does not include programs that did not respond with student enrollment numbers but chose to make the survey available to the enrolled student body. The programs were chosen through the following process: first, eliminating programs that only offer a Bachelor's degree. Secondly, the programs were further identified based on philosophy. The philosophies of the programs, according to DeafEd.net are sorted into categories. The categories provided by DeafEd.net, are: comprehensive, bilingual, multicultural, balanced, bicultural, eclectic, auditory-aural, auditory-verbal, listening and spoken language, print as primary source and oral. The author contacted the website director Dr. Harold Johnson to inquire as to the categories that were assigned to each program. Johnson's (2017) response was that each program self identifies from a list of options provided by the site administrators.

For the purpose of this study, 26 comprehensive and eight bilingual programs listed in Appendix H were chosen to be the representative sample due to the programs being similar in nature and philosophy. After personal discussions with Strassman (2017) & Luckner (2017) the term comprehensive was used as a working definition for the research. A comprehensive program prepares teacher candidates to work with various student needs and settings, offering as many courses in using aural/auditory approaches as they do in ASL as they prepare teacher candidates to work with D/HH students from

birth to age twenty-one. After a personal discussion with Garate (2017) the term bilingual was defined for this research as a program that prepares teachers to achieve a specific level of fluency and curricular competency in both English and American Sign Language (ASL) as established by the program's assessment benchmarks in order to prepare teacher candidates to work with D/HH students from birth to age twenty-one.

While the definitions provided are being used for the sample and sample size selection it should be noted that these definitions are not congruent or encompassing. There does not exist a common definition and much is often left to interpretation of "categories" or "philosophies" as they are defined in deaf education.

Procedures

Thirty-nine programs that fall under the scope of the working definitions of comprehensive and bilingual D/HH teacher preparation programs were contacted by email see Appendix G. In response five of these programs were eliminated from consideration as the contacts for those schools indicated their program was either in suspension or, they no longer had a Master's program for D/HH teacher preparation. The researcher explained the purpose of the study and gave the programs the chance to ask questions and/or raise concerns regarding the study. A consent form that described the study as confidential, anonymous and voluntary was listed at the top of the online survey allowing students the opportunity to opt out of the survey once opened. It was made clear to the participants that their program instructors will not have access to the data and the only individuals who will have access to the data are the researcher, his advisor and committee. The data was safeguarded firstly by anonymous responses, secondly by a password protected online survey through Qualtrics, and thirdly, by keeping the data once

downloaded on an encrypted flash drive locked in the researcher's office when not in use. The directors of each program were contacted and asked to disseminate the anonymous survey link to their master's level student body. This approach was taken to safeguard student identities and maintain compliance with FERPA laws that govern student data. Participants completed the questionnaires which were converted into a Qualtrics survey link. The following measurement tools were converted into this survey link. Firstly, the eight item Implicit Theories of Intelligence Scale (Dweck, 2000) found in Appendix C provided with permission from copyright owner Mindset Works found in Appendix D were utilized. The second measurement that was converted and utilized was the Theoretical Orientation to Reading Profile found in Appendix E provided with permission from copyright owner Wiley Global Permissions found in Appendix F.

Given that this study utilized an online survey format, issues with response rates were explored. Researchers (Kongsved, Basnov, Holm-Christensen, & Hjollund, 2007; Nulty, 2008) have shown that online surveys have a tendency to have lower response rates than those distributed by paper and pencil. However, the researchers also noted that surveys and questionnaires completed online were more likely to be completed in entirety, therefore missing less data in the process. When individuals have greater Internet access and make use of it, response rates have a tendency to be higher. Since the target population of this study is comprised of students in master's programs a higher online response rate is possible. Both Kongsved et. al (2007) and Nulty (2008) have shown that response rates to internet-based surveys can range from between 30% to 60%, Due to the participants' likely internet access provided by their programs, obtaining a

desirable response rate is a more likely than not. Of fifty-five respondents to this study, thirty-five responses, sixty three percent were completed in full.

Variables and Measures

This section describes the measures used in the current studies. Scale reliabilities for each of the measures utilized are described in this section and the items for each of the measures are included in the Appendices C and E.

Implicit Theory of Intelligence Scale

Two scales were explored for measuring the Implicit Theory of Intelligence. Both are explained below along with the rationale for using one over the other.

The 26 item Teacher's Survey of Implicit Theories of Intelligence Scale includes sample items such as: "In my work or studies, my main goal is usually to show my competence and intelligence." and "When I failure at something unexpectedly, I often feel that it's because I lack ability in that field." This survey was developed by Mindset Works, Inc. to measure impact on teachers. The survey included items that measure classroom goal structures and was developed by different researchers that were unidentified by the Mindset Works, Inc. While this survey measures classroom goal structures, no data existed verifying the validity and reliability of the measurement tool. Therefore, it was not chosen as the tool to measure the Implicit Theories of the preservice teachers.

Preservice teachers' (in D/HH preparation programs) implicit theories were measured using the eight item Implicit Theories of Intelligence Scale (ITIS) (Dweck, 1999). The scale consists of four incremental items and four entity items. Each item is measured on the following scale: 1= strongly disagree (SD), 2= agree (A), 3= mostly

agree (MA), 4= mostly disagree (MD), 5= disagree (D) and 6= strongly agree (SA). The goal of the scale is to measure the general belief regarding fixedness vs. malleability of intelligence. Sample items include: “You have a certain amount of intelligence, and you can’t really do much to change it.” and “No matter who you are, you can significantly change your intelligence level.” This scale has good internal consistency of ($\alpha = .82$ to $.97$) and a test-retest reliability factor at two weeks of (α ranging from $.94$ to $.98$) (Dweck, Chiu, & Hong, 1995, p. 269). In addition, according to Dweck et. al (1995) the scale demonstrated good construct validity with the scores predicting theoretically meaningful relationships with a wide range of variables. The scale appears unaffected by social advantage, intellectual aptitude, political beliefs or self-presentation issues. This is worth noting as it can indicate good discriminant validity against the possibility of confounding variables described above (Dweck et. al 1995).

Theoretical Orientation to Reading Profile

Preservice teachers’ (in D/HH preparation programs) theoretical orientations toward reading were measured using the 28 item Theoretical Orientation to Reading Profile (TORP) developed by DeFord (1985). The scale is designed to differentiate preservice teachers in accordance to their theoretical orientation to reading. The scale has 10 items that determine a phonics orientation to reading, 10 items that determine skills-based orientation to reading and eight items that determine a whole language orientation to reading. Each item is measured on a scale of 1= strongly agree (SA) to 5= strongly disagree (SD). Sample items include:

- Phonics orientation: “When children do not know a word, they should be instructed to sound out its parts.”

- Skills orientation: “It is important for a word to be repeated a number of times after it has been introduced to ensure that it will become a part of sight vocabulary.”
- Whole language orientation: “It is a good practice to allow children to edit what is written into their own dialect when learning to read.”

The measure was found to have high reliability ($r = .98$) of differences relating to the theoretical orientation to reading (DeFord, 1985).

DeFord (1985) noted scoring differences between each orientation. For instance, the phonics ($M=61.5$, $SD=6.67$) and whole language ($M=134.5$, $SD=4.45$) had the largest scoring difference whereas, the phonics and skills ($M=70.4$, $SD=12.36$) based orientations had overlaps in total score. Discriminant analysis was conducted to measure the distinctness of the groups as well as check for accurate classification of the items. Only six percent of the sample was incorrectly identified by experts in the field of reading. DeFord (1985) presented a strong construct validity as it was shown that teachers who possess known theoretical orientations, will respond in consistent and in predictable patterns when presented with statements regarding reading instruction.

Data Analysis

Survey data was downloaded into SPSS software, organized and reviewed to differentiate teacher candidates by their theoretical orientation to reading and implicit theory of intelligence as determined by the scale used to measure the respective components, and to correlate across survey items. The four incremental ITIS questions along with questions 5, 7, 15, 17, 18, 23, 26 and 27 of the TORP were reverse scored and summed to create individual scores. These individual scores indicated the respective

reading theory and ITI. The Pearson Correlation Test was run to determine whether a correlation exists between the ITI and the TORP as it relates to the research question.

Reliability and Validity

Creswell (2015) defines reliability as any instance “that scores from an instrument are stable and consistent” (p. 158). Creswell (2015) further states “scores from an instrument are reliable and accurate if an individual’s scores are internally consistent across the items on the instrument” (p. 160). When an individual answer a particular question on a measurement one way they should answer a similarly worded question in a similar manner. This research was tested for internal consistency since it was administered one time with one version and each participant completed the instrument. This is tested by coefficient alpha since the items on the measurements are scored as continuous variables ranging from strongly agree to strongly disagree. Each of the measurements have been validated as noted in the above section and explored in the literature review.

Chapter 4

Results

This chapter presents and discusses the findings from the research conducted as a result of a survey on 55 D/HH teacher candidates who currently attend a master's program in one of 34 possible universities that identify as either comprehensive or bilingual in their pedagogical and philosophical approach to deaf education. Of the 34 universities 26 identified as comprehensive and eight identified as bilingual. The intent as stated previously was to examine the relationship between teacher candidates' Implicit Theory of Intelligence and Theoretical Orientation to Reading Profile of teacher candidates' in D/HH teacher preparation programs. This was achieved by conducting an explanatory correlational design. Specifically, the following results presented below are to address the research question: Does the teacher candidates' Implicit Theories of Intelligence influence their reading theory expectations about and goals for their future students? A breakdown of the participants precedes the findings for this study.

Upon completion of the survey collection period, and prior to running analysis, the data was examined through SPSS for missing values. Of 55 total respondents to the survey, one respondent opted out of the survey, eight indicated they were not currently enrolled in their master's program, and 11 surveys were left incomplete and were deleted. This left a total sample of 35 respondents. Creswell (2015) suggests a sample size $N=30$ or greater to be able to run correlational statistics, while a larger N is desirable for the correlational statistical test, a sample size of 35 is sufficient for this study. While five of the eleven incomplete surveys were complete up to the end of the Implicit Theories of Intelligence Scale (ITIS), they were eliminated as this research is looking at whether the

ITIS influences the TORP of the teacher candidates. All of the other surveys were completed in their entirety with no missing data values.

Survey Sample

Of a total of 35 respondents, 31 of the respondents identified as hearing, two respondents identified as Deaf, one respondent each identified as Hard of Hearing and Late Deafened. Thirty of the 35 respondents were first time Masters students, and five respondents reported their highest degree earned to date was a Master's degree. All respondents with the exception of two identified as White, the two other identified as Black or African American and Native American or American Indian. The sample was not heterogeneous as 33 were female and two were male. When looking at the national trend for demographics of teachers, a non-heterogeneous response rate is well within context. According to data from the National Center for Education Statistics report from 2016 at every time point between 1987-88 and 2011-12 more than 70% of newly hired public educators and 75% of private educators hired were female. Of the 35 respondents nine were currently employed at the time of the survey. Five of the nine have been employed for between one to three years, two have been employed in the field between 7-10 years and two employed less than one year. More than half of the participants were 34 years of age or younger and six were between 35-64 with none older than 64 years of age. One respondent reported being a licensed reading specialist in that individual's state of employment. Of the 35 respondents to the survey there were varying levels of ASL completed with 10 completing all levels of ASL from ASL 1-6. For the full breakdown see Table 1. Fourteen of the total respondents reported being evaluated by a sign language proficiency exam with five being evaluated by the SLPI and nine being

evaluated by the ASLPI. For a full breakdown of the participants signed proficiency levels see Table 1.

Table 1.0
Description of Participants (N=35)

	<i>N</i>	<i>%</i>
Gender		
Male	2	6%
Female	33	94%
Ethnicity		
White	33	94%
Black or African American	1	3%
Native or American Indian	1	3%
Age		
18-24	10	29%
25-34	19	54%
45-64	3	9%
65-74	3	9%
Employed		
Yes	9	26%
No	26	74%
Years Employed (N=9)		
< 1 Year	2	22%
1-3 Years	5	55%
4-6 Years		
7-10 Years	2	22%
Licensed Reading Specialist		
Yes	1	3%
No	34	97%
Sign Language Proficiency Rated (N=14)		
ASLPI	9	64%
SLPI	5	36%
SLPI Ratings		
SLPI-Survival	1	7%
SLPI-Intermediate	1	7%
SLPI-Advanced	2	14%
SLPI-Advanced Plus	1	7%

ASLPI Rating		
ASLPI Level 2	1	7%
ASLPI Level 2+	4	29%
ASLPI Level 3	1	7%
ASLPI Level 3+	2	14%
ASLPI Level 4+	1	7%
Level of ASL Completed		
None	3	9%
ASL 1	5	14%
ASL 2	3	9%
ASL 3	4	11%
ASL 4	6	17%
ASL 5	4	11%
ASL 6	10	29%

Quantitative Data: Bivariate Correlational Analysis

Quantitative data was collected by the way of a Qualtrics survey distributed between October and November of 2017. The survey questions used in this study originated from two measurements that were previously validated. The Implicit Theory questions were derived from the work of Carol Dweck (2000), the scale used was the Implicit Theory of Intelligence Scale (ITIS). The reading theory questions were derived from the work of Diane DeFord (1985), the scale used was the Theoretical Orientation to Reading Profile (TORP). Statistical tests were run to show correlations between the sums of the scales, between the questions on each scale, and between the questions within each scale. Additionally, the means and standard deviations for each of the scales were calculated as well as tests run for internal consistency. Prior to running the statistics for each test, some of the variables had to be recoded. For the ITIS the four incremental questions were reverse scored and then all eight items were summed with a higher score indicating a greater endorsement of the Entity Theory of Intelligence (ET). The mean

of the sum of scores and the standard deviation ($M= 33.10$, $SD= 7.47$) was utilized to determine the higher scores indicating the greater endorsement of the ET. TORP items 5, 7, 15, 17, 18, 23, 26 and 27 were reverse scored and all 28 items were summed. A score of 0 – 65 indicated a decoding perspective, a score of 66 – 110 indicated a skills perspective, and a score of 111 – 140 indicated a wholistic perspective. A score in the range of 85-120 likely indicates that the teacher candidate would possess the ability to learn to use a balanced approach toward reading instruction with their students. Tables 2.0 and 2.1 below shows the summary of the responses from the survey of the two scales prior to reverse coding for analysis.

Table 2.0
Question Response Summary ITIS

Question	1 SD	2 A	3 MA	4 MD	5 D	6 SD	Mean/ Standard Deviation
ITIS 1-You have a certain amount of intelligence, and you can't really do much to change it	0%	6%	14%	31%	37%	11%	M= 4.34 SD= 1.06
ITIS 2-Your Intelligence is something about you that you can't change very much	0%	3%	17%	23%	46%	11%	M=4.46 SD= 1.01
ITIS 3-No matter who you are, you can significantly change your intelligence level	6%	34%	29%	23%	9%	0%	M=2.94 SD=1.08
ITIS 4-To be honest, you can't really change how intelligent you are	3%	0%	20%	23%	40%	14%	M= 4.4 SD= 1.14
ITIS 5-You can always substantially change how intelligent you are	3%	31%	31%	20%	14%	0%	M=3.11 SD= 1.10
ITIS 6-You can learn new things, but you can't really change your basic intelligence	6%	11%	14%	26%	37%	6%	M=3.94 SD= 1.33
ITIS 7-No matter how much intelligence you have, you can always change it quite a bit	9%	26%	29%	29%	9%	0%	M= 3.03 SD= 1.12
ITIS 8-You can change even your basic intelligence level considerably	6%	29%	37%	20%	9%	0%	M= 2.97 SD= 1.04

Question	1SA	2	3	4	5SD	Mean/
----------	-----	---	---	---	-----	-------

TORP 1-A child needs to be able	6%	6%	20%	34%	34%	M= 3.86
--	----	----	-----	-----	-----	---------

TORP 2-An increase in reading	20%	51%	17%	3%	9%	M= 2.29
--------------------------------------	-----	-----	-----	----	----	---------

decrease in comprehension.

TORP 3-Dividing words into	11%	43%	26%	20%	0%	M=2.54
-----------------------------------	-----	-----	-----	-----	----	--------

TORP 4-Fluency and expression	34%	34%	9%	20%	3%	M= 2.23
--------------------------------------	-----	-----	----	-----	----	---------

TORP 5-Materials for early	6%	37%	31%	20%	6%	M= 2.83
-----------------------------------	----	-----	-----	-----	----	---------

TORP 7-It is a good practice to

26%

31%

29%

6%

9%

M= 2.40

allow children to edit what is

SD= 1.19⁸²

when learning to read.

TORP 8-The use of a glossary or 3% 29% 23% 31% 14% M=3.26

dictionary is necessary in

"saw" for "was") are significant

93
SD= .90

TORP 10-It is good practice to	6%	34%	11%	37%	11%	M= 3.14
---------------------------------------	----	-----	-----	-----	-----	---------

TORP 11-It is important for a	40%	43%	9%	6%	0%	M= 1.86
--------------------------------------	-----	-----	----	----	----	---------

TORP 12-Paying close attention	9%	49%	26%	9%	9%	M= 2.60
---------------------------------------	----	-----	-----	----	----	---------

TORP 13-It is a sign of an	0%	0%	26%	63%	11%	M= 3.86
-----------------------------------	----	----	-----	-----	-----	---------

and phrases are repeated.

TORP 15-When coming to a

9%

40%

20%

26%

6%

M= 2.80

word that's unknown, the reader

SD= 1.11¹²³

should be encouraged to guess

based upon meaning and go on.

TORP 16-Young readers need to 20% 60% 17% 3% 0% M=2.03

be introduced to the root form of

SD= .71 128

words (run, long) before they are

(running, longest).

TORP 17-It is not necessary for 3% 14% 17% 23% 43% M= 3.89

a child to know the letters of the

read.

TORP 18-Flashcard drill with 0% 20% 34% 37% 9% M=3.34

TORP 19-Ability to use accent	3%	31%	31%	34%	0%	M=2.97
--------------------------------------	----	-----	-----	-----	----	--------

TORP 20-Controlling text	0%	29%	37%	29%	6%	M= 3.11
---------------------------------	----	-----	-----	-----	----	---------

The fat cat sat on a hat.) is a

TORP 21-Formal instruction in reading is necessary to insure the adequate development of all skills used in reading.	20%	49%	26%	6%	0%	M= 2.17 SD= .82
TORP 22-Phonic analysis is the most important form of analysis used when meeting new words.	0%	14%	31%	34%	20%	M= 3.60 SD= .98
TORP 23-Children's initial encounters with print should focus on meaning, not upon exact graphic representation.	6%	54%	23%	6%	11%	M= 2.63 SD= 1.09
TORP 24-Word shapes (word configuration, b i g) should be taught in reading to aid in word recognition.	11%	60%	26%	3%	0%	M= 2.20 SD= .68
TORP 25-It is important to teach skills in relation to other skills.	49%	46%	6%	0%	0%	M= 1.57 SD= .61
TORP 26-If a child says "house" for the written word "home," the response should be left uncorrected.	3%	11%	34%	31%	20%	M= 3.54 SD= 1.04
TORP 27-It is not necessary to introduce new words before they appear in the reading text.	3%	6%	20%	46%	26%	M= 3.86 SD= .97
TORP 28-Some problems in reading are caused by readers dropping the inflectional endings from words (e.g., jumps, jumped).	3%	60%	26%	11%	0%	M= 2.46 SD= .74

The ITI scores were based on a Likert scale of 1-6, with one being strongly agree and six being strongly disagree, and with a higher score above the mean ($M= 33.10$, $SD=7.47$) indicating a greater endorsement of the ETI. To determine the Implicit Theory of the individual, the standard deviation was used to create ranges as indicated in Figure 1. A score in the range of 0-17 indicates a strong incremental theory and a score in the range of 41-48 indicates a strong entity theory. Of the 35 participants, four (11.43%) had a strong endorsement of the entity theory whereas, one participant (2.90%) had a strong endorsement of an incremental theory of intelligence. Of the remaining individuals, 13 participants (37.14%) trended toward the entity theory and four (11.43%) trended toward the incremental theory. 13 participants (37.14%) scored in the 26-33 range showing no strong belief in either the incremental or entity theory. Of these results a total of 30 participants (86%) do not have a solid Implicit Theory of Intelligence. The TORP scores as indicated by Figure 2, were in addition based on a Likert scale of 1-5, with 32 participants (91.43%) falling in the skills perspective range as it relates to reading instruction and three participants (8.57%) falling in the decoding perspective as it relates to reading instruction. Of the 32 participants indicating a skills perspective only eight participants (25%) had scores that indicated an ability to learn to use a blended approach toward reading instruction.

Figure 1: Participant Implicit Theory of Intelligence Range Scores

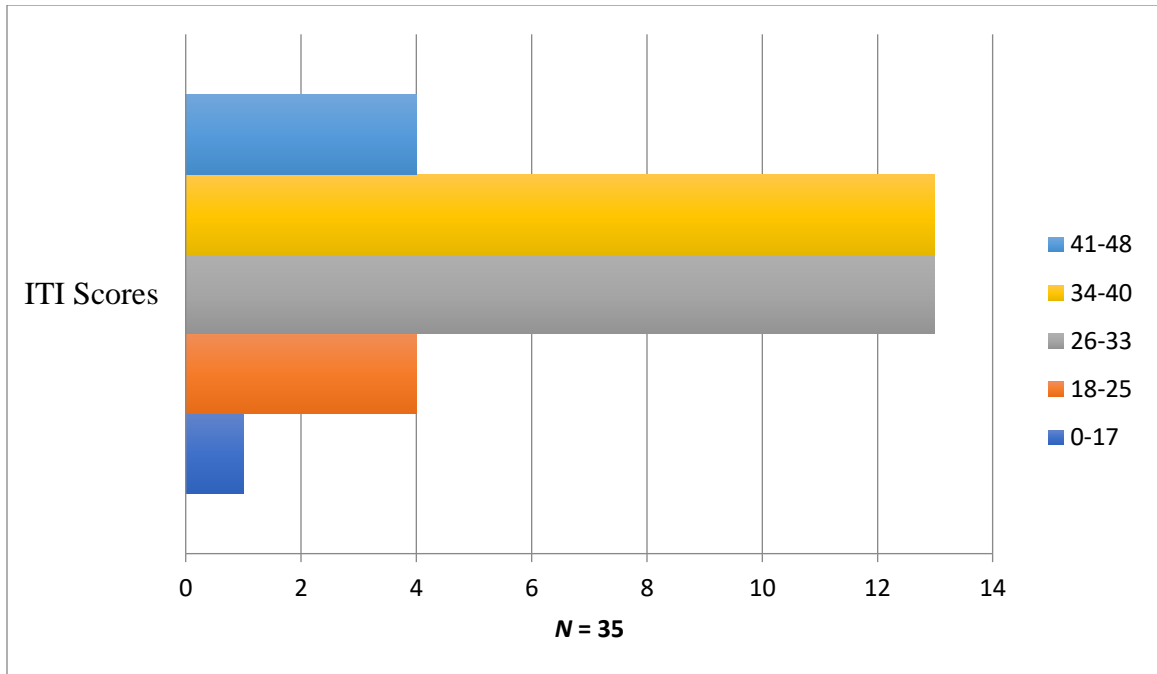
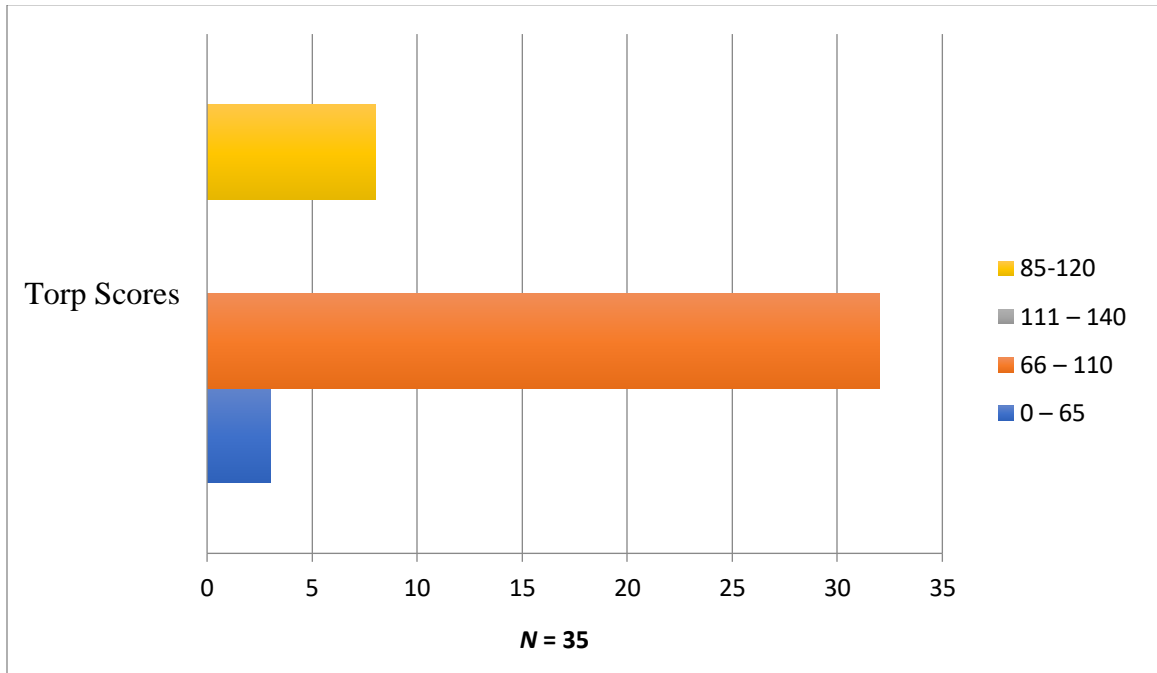


Figure 2: Participant Theoretical Orientation to Reading Profile Range Scores



Correlation coefficients were computed among the two scales controlling for

Type I error across the correlation, a p value of less than .05 was required for

significance. The results of the Pearson correlational analysis presented in table 3.0 shows the test was significant, $p < .01$.

Table 3.0

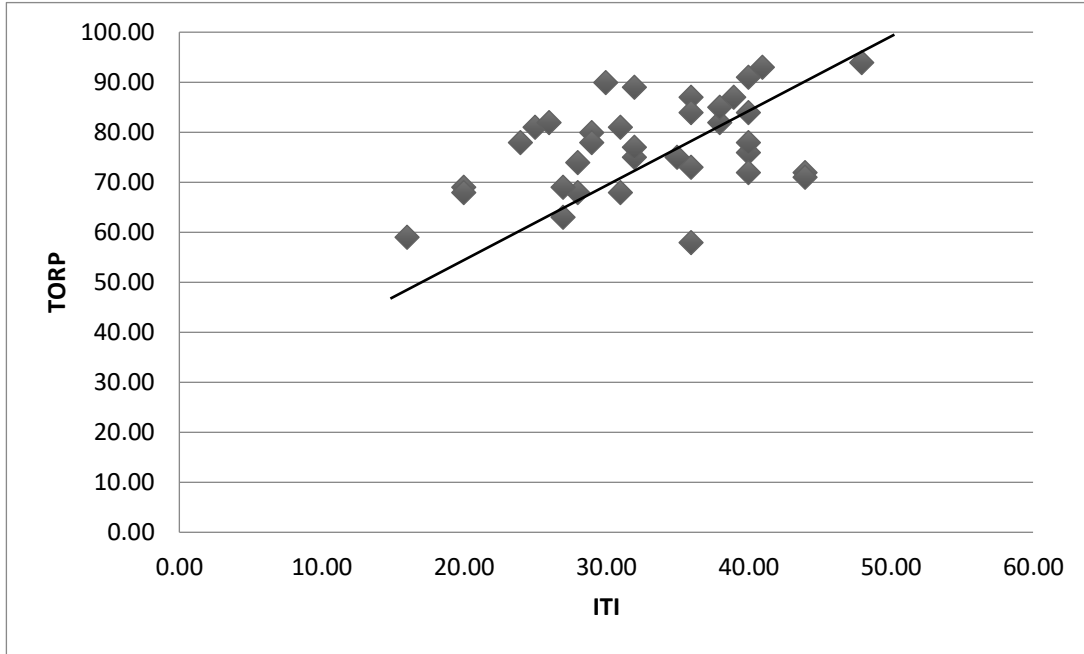
Bivariate Analysis of Sum Scores of ITIS and TORP (N= 35)

	ITIS
TORP	.456**

** . Correlation is significant at the 0.01 level (2-tailed).

Scatterplot below in Figure 3 shows the correlation coefficient, which shows the relationship between the teacher candidates' Implicit Theory of Intelligence scores and their Theoretical Orientation to Reading Profile scores. There was a positive correlation between the two scores. This represents a moderate positive correlation useful for limited predictions (Creswell, 2015).

Figure 3: Bivariate Correlation Coefficient Scatterplot



Correlation coefficients were computed amongst answers to the questions on the ITIS. All questions were significantly correlated, $p < .01$. Literature (Saylor Academy, 2018, Brown, 1997) have stated that correlations between questions on the same measurement indicates a consistency in answers across the questions posed within the measurement. Table 3.1 shows the correlations between the questions on the ITIS.

Table 3.1
Bivariate Analysis of ITIS Questions (N=35)

ITI 1	ITI 2	ITI 3 R	ITI 4	ITI 5 R	ITI 6	ITI 7 R
-------	-------	---------	-------	---------	-------	---------

ITIS 2	.869**						
ITIS 3 R	.625**	.648**					
ITIS 4	.809**	.805**	.599**				
ITIS 5 R	.640**	.654**	.767**	.759**			
ITIS 6	.665**	.547**	.637**	.559**	.717**		
ITIS 7 R	.579**	.633**	.726**	.650**	.778**	.531**	
ITIS 8 R	.552**	.602**	.676**	.558**	.692**	.618**	.753**

** . Correlation is significant at the 0.01 level (2-tailed).

Correlation coefficients were conducted on the answers to the 28 questions on the TORP 46 significant correlations were found, 18 of those correlations were significant, $p < .01$, of 18 correlations two were negative correlations, 28 correlations were significant, $p < .05$ with one correlation being negative. Table 3.2 shows the correlations between the questions on the TORP.

Table 3.2
Bivariate Analysis of TORP Questions (N=35)

	1	2	3	4	5R	6	7R	8	9	10	11	12	13	14	15R	16	17R	18R	19	20	21	22	23R	24	25	26R	27R		
2																													
3	.453**																												
4	-.082	.346*																											
5R	.098	-.520**	.053																										
6	.534**	-.068	.333																										
7R	-.043	.090	.119	.024																									
8	.145	-.252	.307	.042																									
9	-.184	-.034	.132	.029	.042																								
10	.426*	-.212	.085	.160	-.021	.165																							
11	.036	.159	-.247	.216	.059	-.273	-.162																						
12	.073	.025	.105	.118	.175	-.186	-.037	.336*																					
13	.055	.064	-.015	-.035	-.007	-.068	-.082	.187	.194																				
14	.028	-.059	.102	-.027	.096	-.086	.081	.463**	-.108	.109																			
15R	.396*	-.145	.397*	-.013	.152	.301	.330	.100	-.171	.089	-.117																		
16	-.031	-.200	.151	.129	.157	-.069	.049	.139	.087	.205	.052	.055																	
17R	.098	-.269	.047	-.018	.128	-.012	.155	.086	-.121	-.053	.015	.266	.185																
18R	.150	-.283	-.051	.020	.098	.104	.196	-.084	-.095	-.008	-.061	.159	-.039	.143															
19	.517**	.039	.575**	.169	.103	.405*	.072	.332	.114	.475**	.212	.081	.102	.218	.394*														
20	.160	.025	.338*	-.078	.107	.417*	.455**	.378*	.165	.012	-.159	.141	.031	.288	.183	.133													
21	.152	-.023	.141	-.070	.317	-.010	-.138	.047	.211	-.056	.073	.384*	.170	.315	.091	.194	.098												
22	.449**	.082	.241	.129	-.166	.490**	.035	.258	.154	.278	-.231	-.017	.301	.000	-.033	-.154	-.110												
23R	-.122	.032	.141	-.044	-.113	.227	.572**	-.008	.015	-.201	-.301	-.122	-.096	-.030	.352*	.101	-.033	.312											
24	.038	-.197	.146	-.021	.163	-.046	.138	-.070	.010	-.036	-.190	.155	-.144	.000	.063	.295	.115	.115											
25	.248	.232	-.196	.256	-.068	-.116	-.203	-.093	-.069	-.075	.364*	.273	.391*	.053	-.087	-.039	.149	-.114											
26R	.280	-.324	.158	-.015	.398*	.196	.365*	-.028	.005	.160	.009	.037	-.128	.125	.532**	.463**	.239	.515**											
27R	.019	-.314	.327	.121	.153	-.118	.076	-.035	.182	-.043	-.142	.028	-.165	-.067	.055	.378*	-.039	.057											
28	.184	-.093	.180	.011	-.107	.239	.279	.138	.140	.290	.056	-.060	.019	.262	-.007	-.194	.301	.240											

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlation coefficients were conducted on answers between the two scales, 30 significant correlations were found between the questions on the ITIS and TORP, four of those correlations were significant, $p < .01$, 26 of the correlations were significant $p < .05$. Table 3.3 shows the correlations between the questions on the ITIS and the TORP.

Table 3.3
Bivariate Analysis between ITIS and TORP Questions (N=35)

	TORP 1	TORP 2	TORP 3	TORP 4	5R	TORP 6	7R	TORP 8	TORP 9	TORP 10	TORP 11	TORP 12	TORP 13	14	15R	TORP 16	17R	TORP 18R	TORP 19	TORP 20	TORP 21	TORP 22	TORP 23R	TORP 24	TORP 25	26R	TORP 27R	TORP 28
IT11	.359*	-.213	.102	.121	.053	.058	-.308	.371*	-.197	.217	.266	.204	.172	.276	.166	.381*	.015	-.027	.386*	.174	.032	.166	-.242	.230	.281	.121	.323	-.131
IT12	.416*	-.174	.132	.032	.122	.150	-.234	.439**	-.189	.164	.265	.148	.111	.257	.258	.393*	-.068	.144	.473**	.264	.115	.191	-.240	.163	.233	.272	.171	-.012
IT13R	.126	-.063	-.117	-.010	.071	.173	.132	.400*	-.067	.107	.187	.097	.239	.269	.260	.344*	.017	.111	.337*	.446**	.088	.245	.156	.024	.172	.264	-.008	.003
IT14	.166	-.117	-.016	.250	-.137	-.055	-.224	.400*	-.132	.151	.423*	.136	.171	.312	.144	.313	.072	.165	.358*	.126	-.044	-.011	-.242	-.030	.169	.164	.185	.056
IT15R	.243	-.069	.061	.151	-.008	.060	.098	.499**	-.134	.124	.363*	.285	.240	.323	.236	.230	.275	.165	.415*	.398*	.119	.147	-.062	.031	.275	.303	-.066	.137
IT16	.325	-.210	.002	.100	-.014	-.044	.078	.386*	-.142	.340*	.212	.088	-.084	.122	.188	.284	.133	-.041	.372*	.276	-.072	.277	-.128	.242	.151	.190	.120	.057
IT17R	.111	-.017	-.150	.026	.133	-.118	.079	.239	-.171	-.041	.369*	.236	.255	.346*	.265	.149	.046	.250	.234	.265	.101	-.011	-.015	.085	.240	.314	-.023	-.054
IT18R	.127	.070	.103	.157	-.005	-.022	.199	.421*	-.254	.020	.283	.329	.147	.342*	.428*	.278	.114	.166	.413*	.372*	.131	.214	.042	.283	.113	.368*	.025	.059

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Correlation coefficients were computed between the sum of the ITIS scores and the TORP questions. Six correlations were found between the sum of scores and the answers on the TORP questions, two correlations were significant, $p < .01$ and four correlations were significant, $p < .05$. Table 3.4 shows the correlations between the answers on the TORP questions and the ITIS summary scores.

Table 3.4

Bivariate Analysis of TORP Questions with ITIS Sum Scores (N=35)

	ITIS Sum Scores
TORP 1	.278
TORP 2	-.121
TORP 3	.014
TORP 4	.124
TORP 5 R	.029
TORP 6	.026
TORP 7 R	-.022
TORP 8	.468**
TORP 9	-.190
TORP 10	.167
TORP 11	.352*
TORP 12	.352*
TORP 13	.180
TORP 14	.330
TORP 15 R	.286
TORP 16	.351*
TORP 17 R	.093
TORP 18 R	.135
TORP 19	.443**
TORP 20	.344*
TORP 21	.065
TORP 22	.182
TORP 23 R	-.109
TORP 24	.153
TORP 25	.241
TORP 26 R	.294
TORP 27 R	.107
TORP 28	.019

** Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation coefficients were conducted between of the sum of TORP scores with ITIS questions. Five correlations were significant, two correlations were significant, $p < .01$, three correlations were significant, $p < .05$. Table 3.5 shows the correlations between the answers on the ITIS and the sum of the TORP scores.

Table 3.5

Bivariate Analysis of ITIS Questions with TORP Sum Scores (N=35)

	TORP Sum Scores
ITI 1	.329
ITI 2	.398*
ITI 3 R	.411*
ITI 4	.273
ITI 5 R	.503**
ITI 6	.342*
ITI 7 R	.311
ITI 8 R	.514**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Reliability

Internal consistency estimates of reliability were computed for both the ITIS and the TORP. The ITIS was found to have an internal consistency estimate of reliability, ($\alpha=.94$) and the TORP was found to have an internal consistency estimate of reliability, ($\alpha=.71$). This indicates that the ITIS has an excellent internal consistency of reliability and TORP has an acceptable internal consistency of reliability (George & Mallery, 2003).

Summary

The findings as presented have some interesting correlations that will be explored in the discussion in chapter five. A high percentage of the respondents trended toward an entity theory and toward the skills orientation as it pertains to reading instruction, yet of the high percentage of those within the skills perspective a low percentage were found to likely be able to utilize a blended approach. The correlations found between the questions on the ITIS and the TORP as well as between the sum scores and each of the scales presents for an interesting discussion in terms of how ones' implicit theory impacts their reading instruction goals for a D/HH student.

Chapter 5

Discussion

This research project was conducted to examine whether teacher candidates' Implicit Theory of Intelligence influenced their reading theory. The guiding research question posed was this: Do the teacher candidates' Implicit Theories of Intelligence influence their reading theory expectations about and goals for their future students? This chapter aims to discuss the findings presented in Chapter Four and discuss the implications as well as limitations of the findings, and what implications this may have on future research or current D/HH teacher preparation.

Discussion of Major Findings

The goal was to see if a relationship existed between Implicit Theories of Intelligence and the Theoretical Orientation to Reading Profile of D/HH teacher candidates. This was achieved as a relationship between the two theories was found. Garcia-Cepero and McCoach (2008) cited research by Lee (1996) that found teachers with an Entity Theory of Intelligence (ET) and those with an Incremental Theory of Intelligence (IT) treated students differently. The research by Lee (1996) found ET teachers focused more on abilities whereas IT teachers focused on the strategy and effort as they relate to learning. Failures in the eyes of an ET teacher were viewed as obstacles that needed to be overcome, whereas IT teachers viewed the failures as learning opportunities. As was mentioned in the literature review, Lynnott & Woolfolk (1994) found a relationship between the teachers' Implicit Theory of Intelligence and their own educational goals. When looking at the data presented in Chapter Four, it is not known exactly what creates the correlation. Future research between the Implicit Theories of

Intelligence and reading instruction is needed. The correlations between the scores and the questions provide insights.

Findings between ITIS and TORP Questions

Questions 1, 2, 4 and 6 on the Implicit Theory of Intelligence Scale (ITIS) are entity theory-based questions. Questions 3, 5, 7 and 8 on the ITIS are incremental theory-based questions, for the text of the questions on the ITIS see Appendix C. For the Theoretical Orientation to Reading Profile (TORP), Phonics orientation questions are: 1, 2, 3, 6, 9, 10, 12, 20, 21 and 22. Skills orientation questions are: 4, 8, 11, 13, 14, 16, 19, 24, 25 and 28. Whole language orientation questions are: 5, 7, 15, 17, 18, 23, 26 and 27 for the text of the questions on the TORP see Appendix E. When looking at the correlations between the answers on the two scales, the highest correlations (22) as shown in Table 3.3, were found primarily on the statements related to skills orientation on the TORP, which is in line with the results representing a high number of respondents (91.43%) as indicated in Figure 2, falling into the skills orientation on the TORP as it relates to reading instruction. This was true between both the entity and incremental questions. The second highest number of correlations (six) were found between ITIS questions and the phonics orientation on the TORP. Finally, there were only two correlations between answers on the ITIS and the whole language orientation on the TORP. Both of those correlations were directly correlated between ITIS question 8, an incremental question, and the TORP questions 15 and 26, (both whole language questions). When looking at the sum of the ITIS as it correlated with the TORP questions, there were a total of six correlations. Two of those were correlated with the

phonics orientation on the TORP and four were correlated with the skills orientation on the TORP.

As identified in Chapter Four, most respondents scored in the skills and phonics orientations on the TORP, which generally are rooted in bottom-up models of instruction. According to Tracey and Morrow (2017) this is a model that presents reading to be progressive from lower levels of information rooted in the sounds, letter identification and word identification and then working up to the meaning and construction of meaning as it relates to messages from the reading material used. This model assumes vocabulary building has taken place prior to achieving meaning. It is built upon the assumption that the reading process itself is driven by what is already in the reader's head rather than what is being read.

It is known from research (Morere, 2011, Fung et al, 2005 and Lederberg et al, 2014) in deaf education that students enter the academic domain behind their hearing peers in the areas of syntax, morphology, semantics, pragmatics and phonology. Therefore, if bottom up approaches focus on what is already in the student's mind, such as banked vocabulary, the D/HH student will struggle. With a high number of correlations between the skills and phonics orientation this presents a concern related to which mindset the teacher candidates possess regarding reading instruction. On the opposite end of the spectrum from the bottom up model, there is the top down model of instruction which according to Tracey and Morrow (2017) focuses on the reader's background knowledge during the reading process. This can encompass knowledge related to the topic, text structure, word meanings as well as letter sound correspondence. Therefore, this approach is heavily focused on the reader rather than the text, whole

language falls into this category. Whole language according to Tracey and Morrow (2017) presents reading as a natural process provided the student is immersed in a high-quality literacy environment that is meaningful and authentic. All of the components reading, writing, speaking, listening and writing are all interconnected. It assumes that advances in one area will then promote an advance in another area. This assumes the reader has been immersed in some literary environment and has schema and experiences that are authentic and meaningful. Again, as noted, D/HH students enter the academic domain behind their hearing peers in many aspects. It is generally estimated based on research cited by Morere (2011) that 90% of children who are born or become Deaf are born to hearing parents and that as few as four percent of those have at least one Deaf parent. This results in a lack of an authentic or meaningful language environment necessary to meet the needs of a Deaf child.

Reading Theory

A significant result that arose from the data presented in Chapter Four was that 32 respondents fell into the skills perspective range. Only eight (25%) of the 32 identified skills orientation teacher candidates had a score that indicated an ability to use a blended approach toward reading instruction. A blended approach can be viewed from the lens of the interactive model of reading instruction. The interactive model according to Tracey and Morrow (2017) is one in which the reader is simultaneously engaged in information from multiple sources during the reading process. The student is processing syntactic, semantic, orthographic and lexical information mutually and learning from each during the process of reading. The mutual process engages in a way that if one processor of reading is not working well, or lacks appropriate data, other processors can compensate

for it. This would raise concerns about the teacher candidates' ability to recognize and utilize multiple approaches to aid in reading instruction with D/HH students.

This study examined programs that were comprehensive and bilingual in nature as defined in Chapter Three. If programs are educating teacher candidates to either be able to meet the wide range of D/HH students' needs under a comprehensive model or a specified level of fluency as defined under the bilingual model, one would then assume that more teacher candidates would score within the blended approach range in accordance with reading theory. Recall that Richardson et al. (1991) discussed teachers who attempted to utilize more interactive processes and found the teachers were weak or ineffective in their approach to do so. This was primarily due to a lack of understanding of the theory that supported the approach. Several researchers (DeFord, 1985, Ketner et al., 2012, Leko et al., 2015) discovered that the disconnect between theoretical beliefs and the materials used had a profound impact.

Adding to the muddled waters of reading instruction in deaf education is the fact that few topics generate high emotions in education amongst parents, educators, politicians, organizations and others vested in educating deaf students. LaSasso (1999) points out that issues related to reading achievement are often prolonged or left unresolved. This often is the result of a lack of mutual understanding regarding the nature of the reading process and what variables contribute toward reading achievement. In addition, political maneuverings have impacted these muddled waters as to what is the best practice in deaf education. Looking at the Public Law 94-142, (Education of All Handicapped Children passed in 1975 now known as IDEA) established free and

appropriate education for all children with disabilities in the least restrictive environment, many schools for the deaf as a result have decreased due to an increase in mainstreaming.

Padden & Humpheries (2005) point out that until the late 1960's a majority of deaf students were educated within residential schools for the deaf (campuses where deaf students lived and learned). In the 1950's almost 85% of deaf students were educated in these residential schools, by 1988 that number had dropped to 40% and by 2002 the number had dropped to more than 27%. Much of this decline in the 1980's can be traced back to political maneuverings and the establishment of Public Law 94-142. While it was aimed at the education of children with disabilities, districts saw it as a way to keep money within their own district when it came to deaf students and it was during this when mainstreaming and secluded classrooms became the norm for deaf education creating less authentic environments. Rosen (2006) pointed out that since the enacting of IDEA, it has become the battleground upon which all evaluation, instruction and placement of students takes place in deaf education, while ASL classes for hearing students surged due to the reauthorization in 1999 recognized sign language as one of the primary modes of communication, deaf have not had as much benefit as hearing students when it came to learning and utilizing ASL in an academic manner.

In summary, teacher candidates must become stronger in their foundations as it relates to reading approaches and theory, be well versed on the issues in deaf education as it relates to reading instruction and work through their programs to become beacons of change. The constant battleground and politicizing of deaf students must be halted and evidenced based practices rooted in theory must be enacted.

Incremental Theory

The examination of the respondents' Implicit Theories of Intelligence showed that a high number of respondents possessed no strong belief in either the incremental or the entity theory of intelligence. As noted in the literature review Dweck and colleagues (Dweck & Leggett, 1988, Dweck, Chiu, & Hong, 1995, Plaks, Grant & Dweck, 2005) posited that traits such as intelligence manifest in either a fixed or incremental way. The results presented in Chapter Four show that only 5 (14%) of the respondents possess a strong ET or IT whereas, 30 (86%) do not have a strong trait one way or another. Despite research noting the ET and the IT are exclusive of one another, it does not mean that individuals do not possess traits of each at the same time. It is entirely possible that the respondents may be undecided in terms of their theoretical orientation as it pertains to intelligence. It is also possible they do not recognize the inconsistencies in their beliefs. There also exists the possibility that even if one holds an entity theory about themselves they may hold an incremental view for others. This inconsistency pertaining the Implicit Theories could inform why a low number of respondents scored in the ability to use a blended approach. It stands to reason that indecisiveness in terms of Implicit Theory of Intelligence could result in an indecisiveness in reading theory since there exists a lack of uniform agreement amongst various researchers pertaining to the way to teach D/HH students to read. To ground a teacher candidate to a theoretical orientation, or at least to identify their theoretical orientation would provide a solid base toward enacting change and creating a stronger pedagogical approach toward reading instruction.

A concern that arose from this research is the low number of people who are grounded in the incremental theory, since it is known that those with a grounded

incremental theory possess stronger traits for taking challenging tasks head on (in this case working with D/HH students with a range of language needs, skills and abilities) would be better able to utilize a blended or interactive approach toward reading instruction. It was noted that several researchers (Blackwell, Trzesniewski, & Dweck, 2007, Dweck & Leggett, 1988; Kammrath & Dweck, 2006) discussed aspects of learned helplessness which often leads to doubt regarding ability. Since a high number of respondents did not have a grounding in either the ET or the IT they may end up doubting their abilities to teach reading using a blended or interactive approach. This can have an adverse effect on deaf education.

Summary of Major Findings

Researchers (Morere, 2011, Evans, 2004, Mayer, 2007) discuss the importance of utilizing multimodal approaches in deaf education. Mayer (2007) in particular emphasizes that programs need to be able to find a balance between whole language and skills-based orientations to take advantage of the strengths of each. Teachers with inconsistencies in their theoretical belief systems, whether it is reading theory or implicit theory can negatively impact a deaf student's acquisition of reading skills.

Limitations of Study

One of the limitations to this study relates to the sampling. While there are inherent risks toward utilizing an online survey format (Kongsved et al. 2007), there also exists the possibility of higher response rates with the targeted population, because the respondents are in master's programs that utilize online formats for their coursework. Out of 55 respondents 63% completed the survey in full leaving 35 valid responses despite the survey going out nationwide to 34 possible D/HH teacher preparation programs in the

contiguous 48 states of the United States. It is entirely possible that technology issues arose causing the 11 sessions to be left incomplete. The researcher did not maintain full control over the dissemination of the study as the researcher relied upon program directors to send the link to their student bodies.

A second limitation to this study is the choice of instrument. While it would have been preferable to use the 26-item teacher's survey of Implicit Theories of Intelligence which has questions more targeted to teachers and teacher goals, there was insufficient data to justify the use of the instrument. It may be viable to do a validation study utilizing the 26-item survey, because then there would not be an imbalance between the two instruments.

A third identified limitation to this study is related to language. The results showed the majority of the respondents were white hearing individuals. It is assumed that their primary language is English. The low response rate among individuals who are deaf or hard of hearing may or may not be a result of the survey not being available to them in alternative language format, in this case American Sign Language. Studies to make the instruments valid through the use of American Sign Language (ASL) may be viable for future studies of this sort in order to receive a higher response rate amongst candidates who themselves are deaf or hard of hearing and are ASL users. The researcher himself is Deaf, and knows some of the programs, and knows there are more deaf and hard of hearing individuals within the programs surveyed than responded.

A fourth limitation to this research is that even though the researcher himself is a Deaf ASL user, such information was not provided in the initial recruitment emails sent out to the respondents. The researcher feels this is important information. Due to cultural

biases and the breadth of research done by hearing researchers pertaining to deaf education, some Deaf individuals avoid responding to research assuming it is coming from a hearing perspective versus a Deaf perspective. The knowledge that a Deaf researcher is conducting the research may be useful to the respondents and may increase the number of deaf and hard of hearing respondents.

Implications for Future Research and Recommendations

Looking to the future, programs that prepare teacher candidates to become educators in the field of deaf education need to explore a few research approaches on best practices.

An important practice that should be incorporated into teacher preparation programs is the use of the ITIS and TORP assessment tools with teacher candidates. Explicitly knowing what theory, the candidates ascribe to can inform their pedagogical beliefs and how they approach teaching and the choice of curriculum. When a theory is explicitly known pertaining the individual, and if that theory has adverse effects for student success, the preparation programs can then work at expanding or reshaping the views of the candidates' theoretical orientation. For example, in a study by Jones, Bryant, Snyder, & Malone, (2012) one of the implications the researchers reported was that teacher educators need to examine how the beliefs regarding intelligence are conveyed as well as known, since it is known that those who believe intelligence to be innate and fixed underestimate the importance of effort in learning. This is a critical aspect of student success. Not only do the candidates need to be aware of their Implicit Theory of Intelligence, Jones et. al (2012) recommend that the teacher educators also be aware of their own implicit theory, because they can adversely convey mindsets either verbally or

through curriculum choices.

In examining the data, the researcher noticed that one Deaf respondent selected items on the TORP that indicate a decoding perspective as it pertains to reading instruction. It is possible that the Deaf respondent was educated in a system that relied principally on a decoding perspective when working with students perceived as having language delays or deficiencies. As a result, the Deaf respondent may subconsciously believe this to be the best approach to the teaching of reading. Such beliefs and practice perpetuate the cycle that contributes to the oft-cited reading level issues in deaf education. Hence, the importance of making this explicit to the teacher candidates as it relates to theoretical beliefs and their relationship to classroom practice. In addition, future research could add a qualitative aspect by establishing an interview component to the survey. The interview questions could ask selected or all respondents about their response to the statements on the TORP and ITIS. Additionally, interview questions could ask about the individual's process in learning to read. This would provide insight into the theories respondents identify with.

Another important recommendation is for the preparation programs to begin to shift teacher preparation programming to reflect equally balanced approaches in both ASL and English and multimodal pedagogy. While there are programs that embrace the bilingual approach to deaf education, there exists a higher number of programs that remain more comprehensive in nature. A concern that arose from this study regarding ASL is that only 29% of the respondents have completed up to ASL 6 and 43% have taken only up to ASL 3 level courses. As noted in Chapter Two, Easterbrooks and Alvarez (2013) found only three states required D/HH teachers to pass a sign language

proficiency exam. Only 14 of the 35 respondents were currently rated on either the SLPI or ASLPI and only six of those were rated in what would be considered an advanced level of proficiency. Another area of research would be to correlate ASL proficiency with the ITIS and/or the TORP. This study was unable to do this because the low *N* pertaining the number of individuals who took the proficiency exams.

As noted in Chapter Two, a teacher with consistency in the advanced level regarding ASL would readily possess the ability to meet the needs of students with a variety of communication needs from oral students to native ASL users. As noted in Chapter Three the definition of bilingualism as a term is more benchmark related in terms of establishing proficiency in both English and ASL whereas comprehensive as a definition was found to be less precise in its definition in terms of offering enough matching courses in aural/auditory approaches and ASL. A more thorough examination of the research of the curriculum of teacher preparation programs is recommended. Researchers such as (Johnson, 2004, Luckner & Ayantoye, 2013) have looked at the state of teacher preparation programs for preservice teachers. Both have alluded to the need for preservice teachers to become skilled at collecting data and then finding ways to apply that data in order to solve problems and establish appropriate services for D/HH students as well as their families in the educational system. Due to the complexity of the D/HH education system and variance in needs, it would stand that explicitly teaching the incremental theory of intelligence would be important. Establishing the held theoretical beliefs pertaining to reading instruction of the teacher candidates and educating them in a way that shifts toward a blended or interactive approach toward teaching reading would be beneficial. Requiring teachers to complete all levels of ASL in order to truly and

effectively work with students of all communication needs would be beneficial. While this researcher did not look closely at the programs' curricular offerings, this could be an area of ongoing future research and would inform additional studies.

Another recommendation is for programs to increase the number of Deaf, Hard of Hearing, and Deafblind individuals as well as people of color that enter teacher preparation programs for D/HH education. As a result of this and other studies (Luckner & Ayantoye, 2013, Johnson, 2004) it is clear that with the high percentage of white hearing students in preparation programs and in the teaching field of D/HH education, authentic and meaningful literacy environments for D/HH students to grow and learn do not exist.

An area of future research to be explored is how Deaf or Hard of Hearing or Deafblind (D/HH/DB) adults wishing to become a teacher are trained. As noted above, the Deaf individual in this study who identified with having a decoding orientation to reading, the individual's previous and current experiences may have had an impact on the goals, behaviors and outcomes the individual hopes to achieve with future students.

Conclusion

This study set out to see if a relationship between the Implicit Theories of Intelligence and the Theoretical Orientation to Reading profile of D/HH preservice teacher candidates existed and what impact that has on their expectations about and goals for future students. The findings show there is indeed a relationship and this impacts goals and expectations regarding reading instruction in D/HH education as it pertains to preservice teacher candidates. To sum up this research, one can look at this quote as cited in Weaver (2002) "Our findings suggest that both teachers and learners hold particular

and identifiable theoretical orientations about reading which in turn significantly affect expectations, goals, behavior and outcomes at all levels. (p. 2)” Jerome Harste (1977, 1978) continues, “We have come to believe that looking at reading instruction in terms of theoretical orientation is a more cogent, insightful, and accurate one than looking at reading instruction in terms of reading approaches.” This quote validates the need to bring the theoretical orientations held by preservice teacher candidates to the forefront in order to effectively educate our D/HH students. When the teacher candidates are aware of their base theoretical orientations, they then can work toward becoming balanced, informed and effective D/HH educators.

References

- Applegate, A. J., & Applegate, M. D. (2004). The peter effect: Reading habits and attitudes of preservice teachers. *Reading Teacher, 57*(6), 554-63.
- Beach, D. (2003). Mathematics goes to market. *Democratic education: Ethnographic challenges, 116-27*.
- Beach, D., & Dovemark, M. (2007). *Education and the commodity problem: Ethnographic investigations of creativity and performativity in Swedish schools*. London: Tufnell Press.
- Blackwell, L., Trzesniewski, K.H., & Dweck, C.S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78* (1), 246 – 263
<http://mtoliveboe.org/cmsAdmin/uploads/blackwell-theories-of-intelligence-child-dev-2007.pdf>
- Braten, Ivar, & Stromso, Helge, I. (2004). Epistemological beliefs and implicit theories of intelligence as predictors of achievement goals. *Contemporary Educational Psychology, 29*(4), 371-388.
- Brown, J. D., (1997, 9). Reliability of surveys. *Testing & Evaluation SIG Newsletter*. Retrieved from <http://hosted.jalt.org/test/PDF/Brown2.pdf>
- Calderhead, J. (1996). Teachers: Beliefs and knowledge. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (709-725). New York, NY, US Macmillan Library Reference USA; London, England: Prentice Hall International.

- Cannon, J. E., & Luckner, J. L. (2016). Increasing cultural and linguistic diversity in deaf education teacher preparation programs. *American Annals of the Deaf*, 161(1), 89-103.
- Center on Literacy and Deafness (CLAD). (2015). *Research summary report*. Retrieved from <http://clad.education.gsu.edu/files/2015/11/Center-on-Literacy-and-Deafness-Research-Summary-Study-1.pdf>
- Creswell, J.W. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative Research.*: Pearson.
- Deaf Education, (2015). *Deaf education teacher preparation programs*. Retrieved from <http://deafed.net/Knowledge/PageText.asp?hdnPageId=120>
- DeFord, Diane E. (1985). Validating the construct of theoretical orientation in reading instruction. *Reading Research Quarterly*, 20(3), 351-67.
- Dolman, D. (2010). Enrollment trends in deaf education teacher preparation programs, 1973–2009. *American Annals of the Deaf*, 155(3), 353–359.
- Duffy, G., Anderson, L. (1982). *Conceptions of reading project: Final report*. [Washington, D.C.]: Distributed by ERIC Clearinghouse. Retrieved from <http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED218583>
- Dweck C., (2000). *Self Theories: Their Role in Motivation, Personality and Development* New York, NY: Psychology Press.
- Dweck, C. (2006). *Mindset: The new psychology of success* (1st ed.). New York: Random House.

- Dweck, C. (2008). Can Personality Be Changed? The role of beliefs in personality and change. *Current directions in psychological science*, 17(6), 391-394.
- Retrieved from <http://journals.sagepub.com.pearl.stkate.edu/doi/pdf/10.1111/j.1467-8721.2008.00612.x>
- Dweck, C., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry*, 6(4), 267-285. Retrieved from <http://www.jstor.org/stable/1448940>
- Dweck, C., & Leggett, E. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273. Retrieved From <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.583.9142&rep=rep1&type=pdf>
- Easterbrooks, S., & Beal-Alvarez, J. (2013). *Literacy instruction for students who are deaf and hard of hearing* (Professional perspectives on deafness). New York: Oxford University Press.
- Garberoglio, C., Gobble, M., & Cawthon, S. (2012). A national perspective on teachers' efficacy beliefs in deaf education. *Journal of Deaf Studies and Deaf Education*, 17(3), 367-383. Retrieved From <https://academic.oup.com/jdsde/article/17/3/367/543126>
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th ed.). Boston: Allyn & Bacon.

- Harste, J. (1978). Understanding the hypothesis: It's the teacher that makes the difference, part II. *Reading Horizons*, 18(2), 89-98. Retrieved From https://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=2275&context=reading_horizons
- Humphries, T, & Allen, B. M. (2008). Reorganizing teacher preparation in deaf education. *Sign Language Studies*, 8(2), 160-180. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/229070/pdf>
- Johnson, H. (2013). Initial and ongoing teacher preparation and support: Current problems and possible solutions. *American Annals of the Deaf*, 157(5), 439-449. Retrieved From <https://web-a-ebSCOhost-com.pearl.stkate.edu/ehost/pdfviewer/pdfviewer?vid=1&sid=e8bb455f-631f-4b66-9e40-4e710badb3f2%40sessionmgr4006>
- Jonsson, Anna-Carin, Beach, Dennis, Korp, Helena, & Erlandson, Peter. (2012). Teachers' implicit theories of intelligence: Influences from different disciplines and scientific theories. *European Journal of Teacher Education*, 35(4), 387-400. Retrieved From <https://web-a-ebSCOhost-com.pearl.stkate.edu/ehost/pdfviewer/pdfviewer?vid=1&sid=6d5b8f72-ac95-4aea-b038-38dfc41f5f47%40sessionmgr4010>
- Jones, Brett D., Bryant, Lauren H., Snyder, Jennifer Dee, & Malone, David. (2012). Preservice and in-service teachers' implicit theories of intelligence. *Teacher Education Quarterly*, 39(2), 87-101. Retrieved From <https://pdfs.semanticscholar.org/646b/5f368c70894b7e381452cef93fa911182a38.pdf>

- Jones, T., & Ewing, K. (2002). An analysis of teacher preparation in deaf education: Programs approved by the council on education of the deaf. *American Annals of the Deaf*, 147(5), 71-78. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/384624/pdf>
- Johnson, H. A. (2004). U.S. deaf education teacher preparation programs: A look at the present and a vision for the future. *American Annals of the Deaf*, 149(2), 75-91. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/172118/pdf>
- Ketner, Carla S., & Others. (1997). Relationship between teacher theoretical orientation to reading and endorsement of developmentally appropriate practice. *Journal of Educational Research*, 90(4), 212-20. Retrieved From <http://www.jstor.org.pearl.stkate.edu/stable/pdf/27542095.pdf?refreqid=excelsior%3A0c667d022b96f944f79b39d17cefb4ab>
- Kammrath, L., & Dweck, C. (2006). Voicing conflict: Preferred conflict strategies among incremental and entity theorists. *Personality and Social Psychology Bulletin*, 32(11), 1497-1508. Retrieved From <http://journals.sagepub.com.pearl.stkate.edu/doi/pdf/10.1177/0146167206291476>
- Kongsved, S., Basnov, M., Holm-Christensen, K., Hjollund, N., & Olsen, J. (2007). Response rate and completeness of questionnaires: A randomized study of internet versus paper-and-pencil versions. *Journal of Medical Internet Research*, 9(3), Journal of Medical Internet Research, 2007, Vol.9(3). Retrieved From http://www.jmir.org/article/viewFile/jmir_v9i3e25/2

- LaSasso, C. (1999). Critical literacy issues in deaf education in the United States. Actes du colloque international ACFOS: Surdité et accès à la langue écrite, de la recherche à la pratique, November 1998, 221–243 Retrieved From <http://www.acfos.org/publication/ourarticles/pdf/acfos2/lasasso.pdf>
- LaSasso, C. (1999). Test-taking skills: A missing component of deaf students' curriculum. *American Annals of the Deaf*, 144(1), 35-43. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/384109/pdf>
- Leko, Melinda M., Kulkarni, Saili, Lin, Meng-Chuan, & Smith, Shane A. (2015). Delving deeper into the construct of preservice teacher beliefs about reading instruction for students with disabilities. *Teacher Education and Special Education*, 38(3), 186-206. Retrieved From <http://journals.sagepub.com.pearl.stkate.edu/doi/pdf/10.1177/0888406414557677>
- Lynott, D. J., & Woolfolk, A. E. (1994). Teachers' implicit theories of intelligence and their educational goals. *Journal of Research and Development in Education*, 27, 253-253.
- Mayer, C, & Wells, Gordon. (1996). Can the linguistic interdependence theory support a bilingual-bicultural model of literacy education for deaf students? *Journal of Deaf Studies and Deaf Education*, 1(2), 93-107. Retrieved From <https://pdfs.semanticscholar.org/6275/288cb6213c7124a0cb9430692d18459577db.pdf>
- Moore, D. (1987). *Educating the deaf: Psychology, principles, and practices / Donald F. Moore*. (3rd ed.). Boston: Houghton Mifflin.

- Molden, Daniel C., & Dweck, Carol S. (2006). Finding "meaning" in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist*, 61(3), 192-203. Retrieved From <https://www.psychology.northwestern.edu/documents/faculty-publications/molden-meaning.pdf>
- Mueller, C., Dweck, C., & Kruglanski, Arie W. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, 75(1), 33-52. Retrieved From <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.477.4297&rep=rep1&type=pdf>
- National Association of the Deaf. (2018). Community and culture: Frequently asked Questions. Retrieved from <https://www.nad.org/resources/american-sign-language/community-and-culture-frequently-asked-questions/>
- Nulty, D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301-314. Retrieved From <https://web-a-ebSCOhost-com.pearl.stkate.edu/ehost/pdfviewer/pdfviewer?vid=1&sid=8c3a2ca5-7639-46d9-b186-236b754f4afa%40sessionmgr4009>
- Padden, C., & Humphries, T. (2005). *Inside deaf culture / Carol Padden, Tom Humphries*. Cambridge, Mass.: Harvard University Press.
- Paul, P. V. (2015). University and college programs for personnel in deafness. *American*

Annals of the Deaf, 160(2), 180–198. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/384090/pdf>

Paul, P., & Moores, D. (2010). Perspectives on deaf epistemologies. *American Annals of the Deaf*, 154(5), 417-20. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/377916/pdf>

Plaks, J., Grant, H., Dweck, C., & Devine, Patricia. (2005). Violations of implicit theories and the sense of prediction and control: Implications for motivated person perception. *Journal of Personality and Social Psychology*, 88(2), 245-262.

Rattan, A. S., Dweck, C., & Good, C. (2012). "It's ok - Not everyone can be good at math": Instructors with an entity theory comfort (and demotivate) students. *Journal of Experimental Social Psychology*, 48(3), 731-737.

Richardson, Virginia, & Others. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, 28(3), 559-86. Retrieved From <http://www.jstor.org.pearl.stkate.edu/stable/pdf/1163149.pdf?refreqid=excelsior%3Ada304da996ebc9c9ec08c6077141b8f3>

Richards, J., Gipe, J., & Thompson, B. (1987). Teachers' beliefs about good reading instruction. *Reading Psychology*, 8(1), 1-6.
Retrieved From <https://www-tandfonline-com.libpdb.d.umn.edu:2443/doi/pdf/10.1080/0270271870080102?needAccess=true>

- Rosen, R. (2006). An unintended consequence of IDEA: American sign language, the Deaf Community, and Deaf culture into mainstream education. *Disability Studies Quarterly*, 26(2). Retrieved From <http://dsq-sds.org/article/view/685/862>
- Ruddell, R. B. (1995). Those influential literacy teachers: Meaning negotiators and motivation builders. *Reading Teacher*, 48(6), 454-63. Retrieved From <http://www.jstor.org.pearl.stkate.edu/stable/pdf/20201467.pdf?refreqid=excelsior%3A39e96d53e1d4030a6169811ebf790ea4>
- Saylor Academy. *Research methods in psychology* [Open Online Web Course]. Retrieved from https://saylordotorg.github.io/text_research-methods-in-psychology/index.html
- Seaver, L (Interviewer) & Marschark, M. (Interviewee). (2014). *Marschark Citings* [Interview Transcript]. Retrieved from http://www.handsandvoices.org/articles/research/v9-2_marschark.htm
- Schick, B. (Presenter). (2015, July 15). Fingerspelling & literacy for DHH students. Retrieved from <https://vimeo.com/133582114>
- Schommer, M., & Calfee, Robert C. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82(3), 498-504. Retrieved from <https://search.proquest.com/docview/614313652?OpenUrlRefId=info:xri/sid:primo&accountid=26879>
- SLPI, (1999). *Sign language proficiency interview (SLPI) rating scale*. Retrieved from https://www.rit.edu/ntid/slpi/sites/rit.edu.ntid.slpi/files/page_file_attachments/RatingScale%20and%20Analyzing%20Function.pdf

- Traxler, C. (2000). The Stanford Achievement Test, 9th Edition: National norming and performance standards for deaf and hard-of-hearing students. *Journal of Deaf Studies and Deaf Education*, 5(4), 337-348. Retrieved From <https://academic-oup-com.pearl.stkate.edu/jdsde/article/5/4/337/387412>
- Teller, H., & Harney, J. (2005). Views from the field: Program directors' perceptions of teacher education and the education of students who are deaf or hard of hearing. *American Annals of the Deaf*, 150(5), 470-479. Retrieved From <https://muse-jhu-edu.libpdb.d.umn.edu:2443/article/195095/pdf>
- Tamir, M., John, O., Srivastava, S., Gross, J., & Carver, Charles S. (2007). Implicit theories of emotion: Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology*, 92(4), 731-744.
- Vacca, J.L., Vacca, R.T., Gove, M.K., McKeon, C.A., Burkey, L.C., & Lenhart, L.A. (2006). Approaches to Reading Instruction. In Allyn and Bacon (Eds.) *Reading and learning to read* (32-55). Boston, M.A.: Allyn & Bacon. Retrieved From http://www.ablongman.com/html/productinfo/vacca6e/contents/0205431542_2.pdf
- Weaver, C. (2009). *Reading process: Brief edition of Reading process and practice / Constance Weaver*. (3rd ed.). Portsmouth, NH: Heinemann.
- Yorke, M., & Knight, P. (2004). Self-theories: Some implications for teaching and learning in higher education. *Studies in Higher Education*, 29(1), 25-37. Retrieved From <https://web-a-ebSCOhost-com.pearl.stkate.edu/ehost/pdfviewer/pdfviewer?vid=1&sid=3472b42d-7606-4fc8-aa50-0504a88b46b2%40sessionmgr4007>

Appendix A: IRB approval Letter

EXEMPTION DETERMINATION

September 26, 2017

Jean Stevenson

218-726-7451

jsteven1@umn.edu

Dear Jean Stevenson:

On 9/26/2017, the IRB reviewed the following submission:

Type of Review:	Initial Study
Title of Study:	The Relationship Between the Implicit Theories of Intelligence and Reading Theory of Preservice Teachers in Master's Level Deaf Education Preparation Programs
Investigator:	Jean Stevenson
IRB ID:	STUDY00001082
Sponsored Funding:	None
Grant ID/Con Number:	None
Internal UMN Funding:	None
Fund Management Outside University:	None
IND, IDE, or HDE:	None
Documents Reviewed with this Submission:	<ul style="list-style-type: none"> • TORP permission, Category: Other; • Consent Template-Small.pdf, Category: Consent Form;

	<ul style="list-style-type: none"> • Demographic Questionnaire, Category: Recruitment Materials; • Social Template Small, Category: IRB Protocol; • Theoretical Orientation to Reading Profile measurement, Category: Recruitment Materials; • Recruitment Email Letter, Category: Recruitment Materials; • Implicit Theories Permission, Category: Other; • Theories of Intelligence measurement tool, Category: Recruitment Materials;
--	--

The IRB determined that this study meets the criteria for exemption from IRB review. To arrive at this determination, the IRB used “WORKSHEET: Exemption (HRP-312).” If you have any questions about this determination, please review that Worksheet in the [HRPP Toolkit Library](#) and contact the IRB office if needed.

This study met the following category for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that Human Subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the Human Subjects responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects financial standing, employability, or reputation.

Ongoing IRB review and approval for this study is not required; however, this determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a Modification to the IRB for a determination.

In conducting this study, you are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the [HRPP Toolkit Library](#) on the IRB website.

For grant certification purposes, you will need these dates and the Assurance of Compliance number, which is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA00004003).

Sincerely,
Jeffery P Perkey, CIP, MLS
IRB Analyst

We value feedback from the research community and would like to hear about your experience. The link below will take you to a brief survey that will take a minute or two to complete. The questions are basic, but your responses will help us better understand what we are doing well and areas that may require improvement. Thank you in advance for completing the survey.

Even if you have provided feedback in the past, we want and welcome your evaluation.
https://umn.qualtrics.com/SE/?SID=SV_5BiYrqPNMJRQSBn

Appendix B: Survey with Consent Form

Dissertation Data Collection

Start of Block: Consent Form

Q19 Title of Research Study: The Relationship Between the Implicit Theories of Intelligence and Reading Theory of Preservice Teachers in Master's Level Deaf Education Preparation Programs

Researcher: Justin M. Small, MS

Supported By: This research is supported by the University of Minnesota-Duluth.

Why am I being asked to take part in this research study?

We are asking you to take part in this research study because you are a current student in a Deaf and Hard of Hearing teacher preparation master's program.

What should I know about a research study?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

For questions about research appointments, the research study, research results, or other concerns, call the study team at:

Researcher Name: Justin M. Small, MS

Phone Number: 218-878-9300 V/VP

Email Address: jmsmall@d.umn.edu

This research has been reviewed and approved by an Institutional Review Board (IRB) within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at 612-625-1650 or go to www.irb.umn.edu/report.html. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The purpose of this correlational study is to examine the relationship between teacher candidates' Implicit Theory of Intelligence and Theoretical Orientation to Reading Profile. Using Dweck's model of Implicit Theories of Intelligence and DeFord's model of Theoretical Orientation to Reading Profile (TORP) as foundations, examining teacher candidates in current deaf and hard of hearing education training programs, a relationship between the type of implicit theory teacher candidates possess and their theoretical orientation to reading will be explored. It is believed that the type of implicit theory teacher candidates possess may have an impact on how they perceive and interact with their students. This may also determine the approach they use to teach reading to deaf and hard of hearing students. This aspect of teaching deaf and hard of hearing students reading has yet to be explored. The question being explored is; Does the teacher candidates' Implicit Theories of Intelligence influence their reading theory expectations about and goals for their future students?

How long will the research last?

We expect that you will be in this research study for the amount of time it takes you to complete the provided survey. Data collection as a whole will be continuous for the duration of four months.

How many people will be studied?

We expect between 30 to 100 individuals will participate in this research study

What happens if I say "Yes, I want to be in this research"?

You will be asked to complete general demographic information and two questionnaires. The first consisting of eight questions which measure your implicit theory of intelligence and the second consisting of twenty-eight questions to determine your theoretical

orientation as it pertains to teaching reading. There are no right or wrong answers for the questions being answered, the researcher is interested in your ideas.

What happens if I do not want to be in this research?

You can leave the research at any time and it will not be held against you.

What happens if I say “Yes”, but I change my mind later?

You can leave the research at any time and it will not be held against you. The data you submit is done anonymously, you may exit the survey at any time, data collected to the point of opt out will be excluded from the final data as incomplete and will not be included in the analysis, all data will be secured and encrypted.

What happens to the information collected for the research?

Efforts will be made to limit the use and disclosure of your personal information, including research study and medical records, to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the IRB and other representatives of this institution. If we learn about current or ongoing child [or elder] abuse or neglect, we may be required or permitted by law or policy to report this information to authorities.

Will I have a chance to provide feedback after the study is over?

If you are not asked to complete a survey after the study is over, but you would like to share feedback, please contact the study team or the Human Research Protection Program (HRPP). See the “Who Can I Talk To?” section of this form for study team and HRPP contact information.

- I consent to participating in this study
- I do not consent to participating in this study

Skip To: End of Block If Title of Research Study: The Relationship Between the Implicit Theories of Intelligence and Read... = I consent to participating in this study

Skip To: End of Survey If Title of Research Study: The Relationship Between the Implicit Theories of Intelligence and Read... = I do not consent to participating in this study

End of Block: Consent Form

Start of Block: Demographic Information

Q1 Are you currently enrolled in a Master's program for Deaf Education?

Yes

No

Skip To: End of Survey If Are you currently enrolled in a Master's program for Deaf Education? = No

Skip To: Q2 If Are you currently enrolled in a Master's program for Deaf Education? = Yes

Q2 What is your highest degree earned to date?

Bachelor's Degree

Master's Degree

Professional Degree

Doctorate Degree

Q3 What is your age?

18-24

25-34

35-44

45-64

65-74

75 years or older

Q4 Ethnicity origin (or Race): Please specify your race/ethnicity

- White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian or Pacific Islander
- Other _____

Q5 What is your gender?

- Male
- Female
- Non-Binary/ Third Gender
- Prefer to Self-Describe

- Prefer not to say

Q6 Do you identify as:

- Deaf
- Deafblind
- Hard of Hearing
- Hearing
- Late Deafened

Q7 Highest level of American Sign Language completed:

- ASL 1
- ASL 2
- ASL 3
- ASL 4
- ASL 5
- ASL 6
- None

Q8 Do you hold an American Sign Language interpreting certification/license?

- Yes
- No

Q9 Are you currently employed as a Deaf and Hard of Hearing teacher in your state?

- Yes
- No

Skip To: Q10 If Are you currently employed as a Deaf and Hard of Hearing teacher in your state? = Yes

Skip To: Q11 If Are you currently employed as a Deaf and Hard of Hearing teacher in your state? = No

Q10 Number of years teaching

Q11 Are you a licensed reading specialist in Deaf education in your state?

Yes

No

Skip To: Q12 If Are you a licensed reading specialist in Deaf education in your state? = Yes

Skip To: Q13 If Are you a licensed reading specialist in Deaf education in your state? = No

Q12 Number of years licensed

Q13 Have you been rated by the SLPI or the ASLPI?

Yes

No

Skip To: Q17 If Have you been rated by the SLPI or the ASLPI? = Yes

Skip To: End of Block If Have you been rated by the SLPI or the ASLPI? = No

Q17 Which of the following assessments have you been rated by? Please choose the most recent one if you have been rated by both evaluation systems.

SLPI

ASLPI

Skip To: Q14 If Which of the following assessments have you been rated by? Please choose the most recent one if y... = SLPI

Skip To: Q18 If Which of the following assessments have you been rated by? Please choose the most recent one if y... = ASLPI

Q14 Choose which reflects your rating from the respected rating scale

- SLPI-Superior Plus
- SLPI-Superior
- SLPI-Advanced Plus
- SLPI-Advanced
- SLPI-Intermediate Plus
- SLPI-Intermediate
- SLPI-Survival Plus
- SLPI-Survival
- SPLI-Novice Plus
- SLPI-Novice
- SLPI-No Functional Skills

Q18 Choose which reflects your rating from the respected rating scale

- ASLPI- Level 5
- ASLPI- Level 4+
- ASLPI-Level 4
- ASLPI- Level 3+
- ASLPI- Level 3
- ASLPI- Level 2+
- ASLPI- Level 2
- ASLPI- Level 1+
- ASLPI- Level 1
- ASLPI- Level 0+
- ASLPI- Level 0

End of Block: Demographic Information

Start of Block: Implicit Theory of Intelligence Questionnaire

Q15 This questionnaire has been designed to investigate your ideas about intelligence. There are no right or wrong answers. We are interested in your ideas. Using the scale below please indicate the extent to which you agree or disagree with each of the following statements.

Strongly Agree Mostly Mostly Disagree Strongly

Agree

Agree

Disagree

Disagree

You have a



amount of

and you can't |

much to

change it.

Your



much.

|

No matter



who you are, |

you can



significantly |

intelligence level.

To be honest, you can't really change how intelligent you are.

You can always substantially change how intelligent you are.

You can learn new things, but you can't really change your basic intelligence.

No matter how much intelligence you have, you can always change it quite a bit.

You can change even your basic intelligence level considerably.

End of Block: Implicit Theory of Intelligence Questionnaire

Start of Block: Theoretical Orientation to Reading Profile

Q16 Directions: Read the following statements, and circle one of the number responses that will indicate the relationship of the statement to your feelings about reading and reading instruction. SA 1 2 3 4 5 SD (select one best answer that reflects the strength of agreement or disagreement--SA is strong agreement, and SD is strong disagreement)

	SA 1	2	3	4	SD 5
--	------	---	---	---	------

A child needs to



in order to

|





An increase in



to a decrease in



according to



words.





expression are

Materials for



should be

written in



sentences.

When children



should be

instructed to



It is a good



The use of a



of new words.

Reversals (e. g.,



saying "saw" |

for "was") are

It is good



as soon as an

made.

|

It is important



repeated a

ensure that it

will become a

Paying close



necessary to

It is a sign of an

-
-
-
-
-

phrases are

repeated.

Being able to



according to

etc.) is useful in |

When coming



encouraged to

and go on.



need to be

the root form of |

they are asked

longest).

It is not



necessary for a



Ability to use



to graph ic)

should be

developed as a

Controlling text





is a means by



Formal





necessary to









representation.

Word shapes (word configuration, big) should be taught in reading to aid in word recognition.

It is important to teach skills in relation to other skills.

If a child says "house" for the written word "home," the response should be left uncorrected.

It is not necessary to introduce new words before they appear in the reading text.

Some problems in reading are caused by readers dropping the inflectional endings from words (e.g., jumps, jumped).

Appendix C: Implicit Theories of Intelligence Scale

Intelligence Scale—Self-Form for Adults

This questionnaire has been designed to investigate ideas about intelligence. There are no right or wrong answers. We are interested in your ideas.

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by writing the number that corresponds to your opinion in the space next to each statement.

1 Strongly Agree	2 Agree	3 Mostly Agree	4 Mostly Disagree	5 Disagree	6 Strongly Disagree
------------------------	------------	----------------------	-------------------------	---------------	---------------------------

* ____ 1. You have a certain amount of intelligence, and you can't really do much to change it.

* ____ 2. Your intelligence is something about you that you can't change very much.

____ 3. No matter who you are, you can significantly change your intelligence level.

* ____ 4. To be honest, you can't really change how intelligent you are.

____ 5. You can always substantially change how intelligent you are.

* ____ 6. You can learn new things, but you can't really change your basic intelligence.

____ 7. No matter how much intelligence you have, you can always change it quite a bit.

____ 8. You can change even your basic intelligence level considerably.

*These items can be used alone.

Appendix D: Mindset Works Permissions



Mindset Works, Inc.
340 S. Lemon Ave. #6463
Walnut, CA 91789

Permission for use of copyright material

To Whom It May Concern:

Justin small (University of Minnesota Deluth) is hereby granted permission by Mindset Works to use the Mindset Assessment Profile tool (MAP) on qualtrics so long as the below copyright citation is used.

Copyright © Mindset Works, Inc. Used with Permission. Additional mindset resources at www.mindsetworks.com

Permission is granted to complete his dissertation (will look at Deaf and Hard of Hearing teacher implicit theories of intelligence and the theory they ascribe to for teaching reading to Deaf students) in which he will use the requested tool to survey participants through Qualtrics and hand score their results.

We understand this is for a not for profit instance and for educational research use only. **Please use the resource located [here](#) and ensure our copyright stays intact.** Please do not further use these materials beyond the description above or share them for others use.

Scoring/interpretation information:

If the goal is to examine program impact in a research study, we would recommend some or all of the attached measures. These were used in other research studies and have demonstrated internal reliability and predictive value with respect to one another and achievement outcomes.

If the training is focused on mindset, be sure to include the theories of intelligence scale as a first priority. Other scales could also be incorporated based on the outcomes of most interest. See scales [Here](#) (emailed link)

In the case you plan to measure impact on teachers directly, rather than on students, part 1 [Here](#) (emailed link) may be a better option. (Part 2 addresses classroom goal structures, and was developed by different researchers.)"

Validity/reliability information:

The short survey "[Mindset Assessment](#)" has not been used in rigorous research by itself. Rather, it contains a sampling of questions from several research-validated scales measuring mindsets about intelligence, learning goals, and beliefs about effort. These scales are too long and redundant for a quick online survey. See full scales [here](#).

Mindset Works documents are not to be used for commercial or editorial purposes, or to send them to a third party. Mindset Works retains the copyright to all documents, per USC Title 17 (US Copyright Law). The documents that are being provided to you are licensed copies for personal use and noncommercial purposes.

By using the "Mindset Assessment" tool you are agreeing to the above terms. For our full terms of service please visit: [Terms of Service](#). Mindset Works Inc. retains the copyright to all documents, per USC Title 17 (US Copyright Law).

Date: 3/2/17

Approved By: Elisha Perez

Signed:

Mindset Works, Inc.

The DeFord Theoretical Orientation to Reading Profile (TORP)

Directions: Read the following statements, and circle one of the responses that will indicate the relationship of the statement to your feelings about reading and reading instructions.

SA = strongly agree; **SD** = strongly disagree

Select one best answer that reflects the strength or agreement SA 2 3 4 SD or disagreement.

- | | |
|---|---------------------------|
| 1. A child needs to be able to verbalize the rules of phonics in order to assure proficiency in processing new words. | <u>1 2 3 4 5</u>
SA SD |
| 2. An increase in errors is usually related to a decrease in comprehension. | <u>1 2 3 4 5</u>
SA SD |
| 3. Dividing words into syllables according to rules is a helpful instructional practice for reading new words | <u>1 2 3 4 5</u>
SA SD |
| 4. Fluency and expression are necessary components of reading that indicate good comprehension. | <u>1 2 3 4 5</u>
SA SD |
| 5. Materials for early reading should be written in natural language without concern for short, simple words and sentences. | <u>1 2 3 4 5</u>
SA SD |
| 6. When children do not know a word, they should be instructed to sound out its parts. | <u>1 2 3 4 5</u>
SA SD |
| 7. It is a good practice to allow children to edit what is written into their own dialect when learning to read. | <u>1 2 3 4 5</u>
SA SD |
| 8. The use of a glossary or dictionary is necessary in determining the meaning and pronunciation of new words. | <u>1 2 3 4 5</u>
SA SD |
| 9. Reversals (e.g., saying "saw" for "was") are significant problems in the teaching of reading. | <u>1 2 3 4 5</u>
SA SD |
| 10. It is good practice to correct a child as soon as an oral reading mistake is made. | <u>1 2 3 4 5</u>
SA SD |
| 11. It is important for a word to be repeated a number of times | <u>1 2 3 4 5</u> |

- after it has been introduced to ensure that it will become a part of sight vocabulary. SA SD
12. Paying close attention to punctuation marks is necessary to understanding story content. 1 2 3 4 5
SA SD
 13. It is a sign of an ineffective reader when words and phrases are repeated. 1 2 3 4 5
SA SD
 14. Being able to label words according to grammatical function (e.g., nouns, etc.) is useful in proficient reading. 1 2 3 4 5
SA SD
 15. When coming to a word that's unknown, the reader should be encouraged to guess upon meaning and go on. 1 2 3 4 5
SA SD
 16. Young readers need to be introduced to the root form of inflected forms (e.g., running, longest). 1 2 3 4 5
SA SD
 17. It is not necessary for a child to know the letters of the alphabet in order to learn to read. 1 2 3 4 5
SA SD
 18. Flash-card drills with sight words is an unnecessary form of practice in reading instruction. 1 2 3 4 5
SA SD
 19. The ability to use accent patterns in multisyllable words (pho` to graph, pho to` gra phy, and pho to gra` phic) should be developed as a part of reading instruction. 1 2 3 4 5
SA SD
 20. Controlling text through consistent spelling patterns (e.g., The fat cat ran back. The fat cat sat on a hat.) is a means by which children can best learn to read. 1 2 3 4 5
SA SD
 21. Formal instruction in reading is necessary to ensure the adequate development of all the skills used in reading. 1 2 3 4 5
SA SD
 22. Phonic analysis is the most important form of analysis used when meeting new words. 1 2 3 4 5
SA SD
 23. Children's initial encounters with print should focus on 1 2 3 4 5 420

meaning, not on exact graphic representation.	SA	SD
24. Word shapes (word configuration) should be taught in reading to aid in word recognition.	<u>1 2 3 4 5</u> SA	SD
25. It is important to teach skills in relation to other skills.	<u>1 2 3 4 5</u> SA	SD
26. If a child says “house” for the written word “home”, the response should be left uncorrected.	<u>1 2 3 4 5</u> SA	SD
27. It is not necessary to introduce new words before they appear in the reading text.	<u>1 2 3 4 5</u> SA	SD
28. Some problems in reading are caused by readers dropping the inflectional ending from words (e.g., jumps, jumped).	<u>1 2 3 4 5</u> SA	SD

Determining Your Theoretical Orientation

- To determine your theoretical orientation, tally your score on the TORP. Add the point values as indicated on each item, except for the following items:

5, 7, 15, 17, 18, 23, 26, 27

- For these items, reverse the point values by assigning 5 points for strongly agree (SA) to 1 point for strongly disagree (SD):

<u>5</u>	4	3	2	<u>1</u>
SA				SD

- Once your point totals have been added, your overall score on the TORP will fall in one of the following ranges:

THEORETICAL ORIENTATION	OVERALL SCORE RANGE
Phonics	0-65
Skills	65-110
Whole Language	110-140

The DeFord Theoretical Orientation to Reading Profile

This test was copyrighted by the International Reading Association in 1985.

Appendix F: Wiley Global Permissions



Justin Small

Re: Theoretical Orientation to Reading Profile

Wiley Global Permissions <permissions@wiley.com> Wed, Feb 22, 2017 at 4:11 AM
To: Justin Small

Dear Justin,

Thank you for your email and apologies for the delay in receiving a response to your request.

Please see your permission grant below for use of the requested material in your dissertation:

Permission is granted for you to use the material requested for your thesis/dissertation subject to the usual acknowledgements (author, title of material, title of book/journal, ourselves as publisher) and on the understanding that you will reapply for permission if you wish to distribute or publish your thesis/dissertation commercially. You must also duplicate the copyright notice that appears in the Wiley publication in your use of the Material; this can be found on the copyright page if the material is a book or within the article if it is a journal.

Permission is granted solely for use in conjunction with the thesis, and the material may not be posted online separately.

Any third-party material is expressly excluded from this permission. If any of the material you wish to use appears within our work with credit to another source, authorisation from that source must be obtained.

Best wishes,

Aimee Masheter

Permissions Coordinator

John Wiley & Sons Ltd

The Atrium

Southern Gate, Chichester

West Sussex, PO19 8SQ

UK

Appendix G: List of Schools

University Name	Program Type	# Of Prospective Students	Location	Level	Survey Sent
University of Arizona	Comprehensive		Tucson, AZ	M.A.	Yes

Ball State

Comprehensive

Muncie, IN

Masters

Yes

Bloomsburg Comprehensive

Bloomsburg, M.S.

426
No (currently

Boston

Bilingual

Boston, MA M.Ed.

Yes

California

Bilingual

Northridge,

Master's

Yes

State

CA

Degree

University of Bilingual

La Jolla, CA M.A.

Yes

Canisius

Comprehensive

Buffalo, NY M.S.

442
No (currently

Eastern

Comprehensive 18

Richmond, M.A.

Yes

Gallaudet

Bilingual

30

Washington,

Yes

450

Georgia State Comprehensive

Atlanta, GA MAT, Yes

Hunter

Comprehensive

New York,

M.S.Ed.

Yes

College,

NY

University

Comprehensive

Normal, IL

M.S.

No Longer

Idaho State

Comprehensive

Pocatello, ID M.Ed.

No (currently

Kent State

Comprehensive 5

Kent, OH

Masters

Yes

Lamar

Bilingual

Beaumont,

M.S.

Yes

Marshall

Comprehensive

South

Graduate

Yes

McDaniel

Bilingual

Westminster, Graduate Yes

University of Comprehensive

Minneapolis, M.Ed.,

Yes

Minot State

Comprehensive 16

Minot, ND

M.S.

Yes

University of Comprehensive

Montevallo, M.Ed.

Yes

National

Comprehensive

Rochester,

M.S.

Yes

National University	Comprehensive	La Jolla, CA	M.S. in Special Education	Yes
University of Nebraska-Lincoln	Comprehensive	Lincoln, NE	M.A. and M.Ed.	Yes
University of Northern Colorado	Comprehensive	Greeley, CO	Master's Degree	Yes
University of North Florida	Comprehensive	Jacksonville, FL	MED	No longer have master's program
Ohio State University	Comprehensive	Columbus, OH	M.Ed.	Yes
Radford University	Comprehensive	Radford, VA	M.S.	Yes
Saint Joseph's University	Comprehensive	Philadelphia, PA	M.S.	Yes
Teachers College, Columbia University	Comprehensive	New York, NY	M.A.	Yes
The University of Tennessee	Comprehensive	Knoxville, TN	M.S.	Yes
Texas Tech University	Comprehensive	Lubbock, TX	Masters in Sp. Ed.	Yes
Texas Women's University	Comprehensive	Denton, TX	M.S.	Yes
University of Utah	Comprehensive	Salt Lake City, UT	M.Ed.	Yes
Utah State University-Logan	Bilingual	Logan, UT	M.Ed.	Yes
Valdosta State University	Comprehensive	Valdosta, GA	M.Ed. Special Education	Yes
University of Wisconsin-Milwaukee	Comprehensive	Milwaukee, WI	Masters	Yes