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Knowledge, Concerns, And Interventions Related To D/deaf English Learners

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254 Pages

In education today, there is an increasing population of individuals who are d/Deaf/Hard of Hearing and English Learners (d/DHH/ELs). This population of students need innovative teaching strategies to achieve optimal outcomes. Schools are challenged with providing education to these students, and there are many barriers to overcome. Teachers receive little to no education on how to teach this combined population of learners. Students who are d/DHH/ELs arrive to the educational setting with many barriers that are present in both the school and home.

A review of the literature revealed that minimal strategies exist to support the d/DHH/EL population. Literacy strategies were explored for English learners (ELs), d/Deaf/Hard of Hearing (d/DHH), and ELs with disabilities. After reviewing the strategies for each population of learners, overlap among strategies across populations was examined. The purpose of examining the overlap was to determine strategies that might be beneficial to the d/DHH/EL population. Only five strategies overlapped among all three populations. These strategies included modeling, frequent opportunities to respond, repetition, shared reading, and explicit instruction. Therefore, providing a very limited pool of potential strategies for educators to use to support this population. Another literature review was conducted to determine teacher knowledge of d/DHH/EL population. This search revealed that teachers received little to no

training and often know only a small amount of information related to teaching this population. Teachers educating this population usually bring a specific set of expertise either in deaf education or EL education. Individuals who are d/DHH/EL bring different challenges to the classroom. Often these students arrive to the academic setting already behind their peers, having little to no language development in their native language or the language spoken at school, and home support may vary (Genesee et al., 2005). These differences and delays have posed new challenges to educators and could potentially compromise the future of individuals who are d/DHH/EL because they are at increased risk for decreased literacy skills which are ultimately responsible for success both academically and in life (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008). The research that exists does not provide information on beneficial strategies to help these students reach their optimal potential, nor does it prove that educators are well-equipped to teach the growing population.

A qualitative study was conducted to gain a better understanding of preservice teachers, inservice teachers, supervisors of d/DHH programs, and teacher education faculty members' perception of their knowledge, concerns, and strategies with the d/DHH/EL population. Focus groups were held at three different professional conferences and in one university course in order to capture the information desired. The study had 70 participants. Data were analyzed using open coding and pattern coding (Punch, 2014, p. 174).

The results of the study revealed that preservice teachers, inservice teachers, supervisors of d/DHH programs, and teacher education faculty members were aware that this is a growing population. Participants described the d/DHH/EL population as students who speak a language other than English and have a hearing loss. Numerous teaching strategies were described by all participants in the study. Some of strategies included: visuals, repetition, modeling, role-play,

direct instruction, and experiences. All participants shared challenges and concerns they have with educating the d/DHH/EL population. The themes that emerged included: knowing a starting point, overcoming language barriers, and the overall system.

This study provided the foundation for what is known about d/DHH/ELs. Continued work is needed to evaluate teaching strategies with learner outcomes. As this population continues to grow more research is needed to assist educators in helping students accomplish their goals.

KEYWORDS: English learners (ELs), d/Deaf/Hard of Hearing (d/DHH), individuals who are d/Deaf/Hard of Hearing and English learners (d/DHH/ELs), strategies, language, literacy, preservice teachers, inservice teachers, supervisors of d/DHH programs, teacher education faculty

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MOLLY BETH TURNER

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M.B.T

CONTENTS

TABLES

FIGURES

Figure

CHAPTER I: IMPACT OF DIVERSITY IN U.S. SCHOOLS AND EFFECTIVE STRATEGIES TO PROMOTE LITERACY DEVELOPMENT

Schools in the U.S. are increasingly diverse. Cultural membership, racial background, or ability related to linguistic backgrounds and language-learning histories are ways in which diversity is present in today's classrooms (Jozwik & Douglas, 2017a). Approximately 4.8 million students in U.S. public schools speak a language other than English in the home (National Center for Education Statistics [NCES], 2013). Effective teaching by well-trained teachers is crucial in education, but it is more critical with diverse populations. As classroom diversity increases, the need for culturally-responsive methods and pedagogical approaches are more prevalent (Richards, Brown, & Forde, 2007). Teachers must be prepared to educate students with variances in culture, language, abilities, and many other characteristics (Gollnick & Chinn, 2002). Several populations exist that present with variances in culture, language, abilities, and additional characteristics, but two populations will be further examined. These include individuals who are English learners (ELs) and individuals who are d/Deaf/hard of hearing (d/DHH).

During the 2014-2015 school year, 8.8% of the school population included ELs. Of those students, 79% spoke English and were ELs (National Clearinghouse for English Language Acquisition [NCELA], 2017). Future projections indicate that minority populations will soon become the majority populations (Colby & Ortman, 2015).

In addition, individuals who are d/DHH exist within schools. According to the Center for Disease Control [CDC], approximately 15% of school-aged students are impacted by a hearing loss (CDC, 2017). Of the students who are d/DHH in public schools, 57.1% are educated in the general education environment, 22.7% in self-contained classrooms, and 11.9% attend a resource

room (Gallaudet Research Institute; GRI, 2011). No research indicates changes in the d/DHH population projections, so one can assume the number of individuals who are d/DHH will remain steady in schools. Knowing this, it is possible for ELs to be d/DHH and vice versa. This population of individuals will be referred to as d/DHH/ELs. To better understand individuals who are ELs, d/DHH, and d/DHH/ELs, additional characteristics of each population will be discussed. This chapter will address the following elements: (a) population characteristics, (b) language development, (c) theories of language acquisition, (d) legislative support, (e) influential court cases in EL education, and (f) conclusion.

Population Characteristics

Characteristics of Individuals who are ELs

ELs are best defined as individuals who use language other than English or come from an environment where another language besides English is spoken, and score in the limited English proficiency range on federally regulated screeners and assessments (Cook, Linquanti, Chinen, & Jung, 2012). Individuals who are ELs bring certain learning needs to the educational setting. One of the distinctive characteristics is the [1]need to develop English language proficiency. To meet the unique needs of ELs, specific educational supports and a variety of program models are available. Educational supports and placements for ELs vary based upon their needs.

The types of services and placements for ELs vary across states, school districts, and individual students. Additionally, the terms used to describe placement options differ across states and school districts. Federal law mandates that assistance in core curriculum and support

[1] There are a variety of terms/phrases used to describe learners who speak a home language that is not English (bilingual students, students with limited English proficiency (LEP), English as a second language (ESL) students, English learners (ELs), and English language learners (ELLs). For the purpose of this paper, the terms "English learners (ELs)" will be used.

in language development must be provided to ELs (Curtin, 2009). While many programs and support options are available for ELs, these are not necessarily consistent from one school to the next. Overall, approximately 60% of ELs receive instruction in English (Howard, 2007). Approximately 12% of those individuals do not receive any support for their limited English proficiency, while the remaining 48% receive English instruction with certain supports (Howard, 2007). Table 1 provides general information about available programs for ELs that can often be found in school districts and their definitions. Further delineation of terms will not be discussed within this paper.

Table 1

Educational Programs and Supports for ELs

Program/Support	Description
Total English as a Second Language (ESL)/Language Centers/ Newcomers Center/Welcome Center	Program designed to teach individuals to speak English as soon as possible. When located in a school, the individual who is an EL spends some part of their day in the mainstream.
Partial ESL	Student spends some of their day with an ESL teacher in an ESL classroom. This is often during language arts in which language skills are developed and supported.
Maintenance Bilingual Program	Students are taught primarily in their native language. As they progress through the grade levels, the amount of native language instruction decreases while the amount of English language instruction increases.
Transitional Bilingual Program	Individuals receive instruction in their native language anywhere from 1-3 years. English instruction is increased with the ultimate goal being completely English instruction and by the end of 5th grade no more native language instruction occurs.
Immersion	Students are taught in their second language. Students have access to their native language at home and are expected to learn in their second language while at school.
Two-Way Immersion	Native and non-native speakers are in a classroom together. Half the day is devoted to teaching in one language while the other half is devoted to teacher in the other language.
ESL Pullout	The student is included in the mainstream for the majority of the time but receives some pullout services to support their English language development.
English Language Development	Individuals receive all instruction in English by a teacher who understands second language acquisition.
Sheltered English or Specifically Designed Academic Instruction in English	All instruction is in English and at the students' grade level. Intense English support is provided to students.
Structured English Immersion	Students are taught in a regular classroom with a teacher who is familiar with techniques that are effective with ELs.
Mainstreaming English Learners into the Regular Classroom	Students are taught by a teacher who has ESL certification or one that is trained in second language techniques.

(Adapted from Curtin, 2009)

Characteristics of Learners who are d/DHH

Within the Individuals with Disabilities Education Improvement Act (IDEIA, 2017), there are two disability eligibility categories related to hearing loss; deafness and hearing impairment. Deafness is defined as a hearing impairment that results in difficulty or ineffectiveness of processing linguistic information auditory only, with or without the use of amplification, which adversely impacts educational performance. Permanent or fluctuating hearing loss that impacts educational performance is known as a hearing impairment (IDEIA, 2004). Regardless of having Deafness or a hearing impairment, the loss can be present in one (unilateral) or both (bilateral) ears. Characteristics of individuals who are d/DHH are not uniform; they vary from one individual to another. Degree of hearing loss, amplification use, and communication modality can differ from one individual who is d/DHH to another. Individuals who are d/DHH comprise approximately 0.38% of the US population (National Institute on Deafness and Other Communication Disorders [NIDCD], 2016.

Degree of Hearing Loss

Varying degrees of hearing loss exist and affect what individuals can hear. Degrees of hearing loss range from normal hearing to a profound hearing loss. Hearing loss is described through the use of decibels and frequencies. Decibel (dB) refers to the loudness of items. The higher the number of dB, the louder the sound. Frequency (Hz) refers to the pitch of items. The higher the Hz, the higher the pitch. Figure 1 shows an audiogram. Audiograms are used to document sounds and sometimes speech that is heard by individuals who are d/DHH. The familiar sounds audiogram, displayed in Figure 1, portrays everyday items and their sounds at certain frequencies and decibels. An individual's hearing losses can be plotted on the familiar sounds audiogram to give information about everyday items and sounds that may or may not be

heard. Audiogram types differ, but the audiogram included is one that illustrates the varying degrees of hearing loss along with example of items individuals can and cannot hear based on their degree of hearing loss. Loudness levels, as indicated by dB, from softest (0 dB) to loudest (120 dB) are displayed on the y-axis. Frequency, as indicated by Hz, is displayed on the x-axis with low frequency sounds starting at 125 Hz and progressing to high frequency sounds at 5,000 Hz. Hearing losses, as defined by dB level are represented on the right side of the figure. The images, and sounds are indicative of what individuals can and cannot hear based on their hearing loss. Within each of the ranges, there are certain levels in which individuals can only hear things that are loud. For instance, an individual who has a hearing loss around 30 dB will only be able to hear things louder than 30 dB (below 30 dB). Images such as people talking, and the vacuum cleaner are portrayed as being louder than 30 dB on the familiar sounds audiogram.

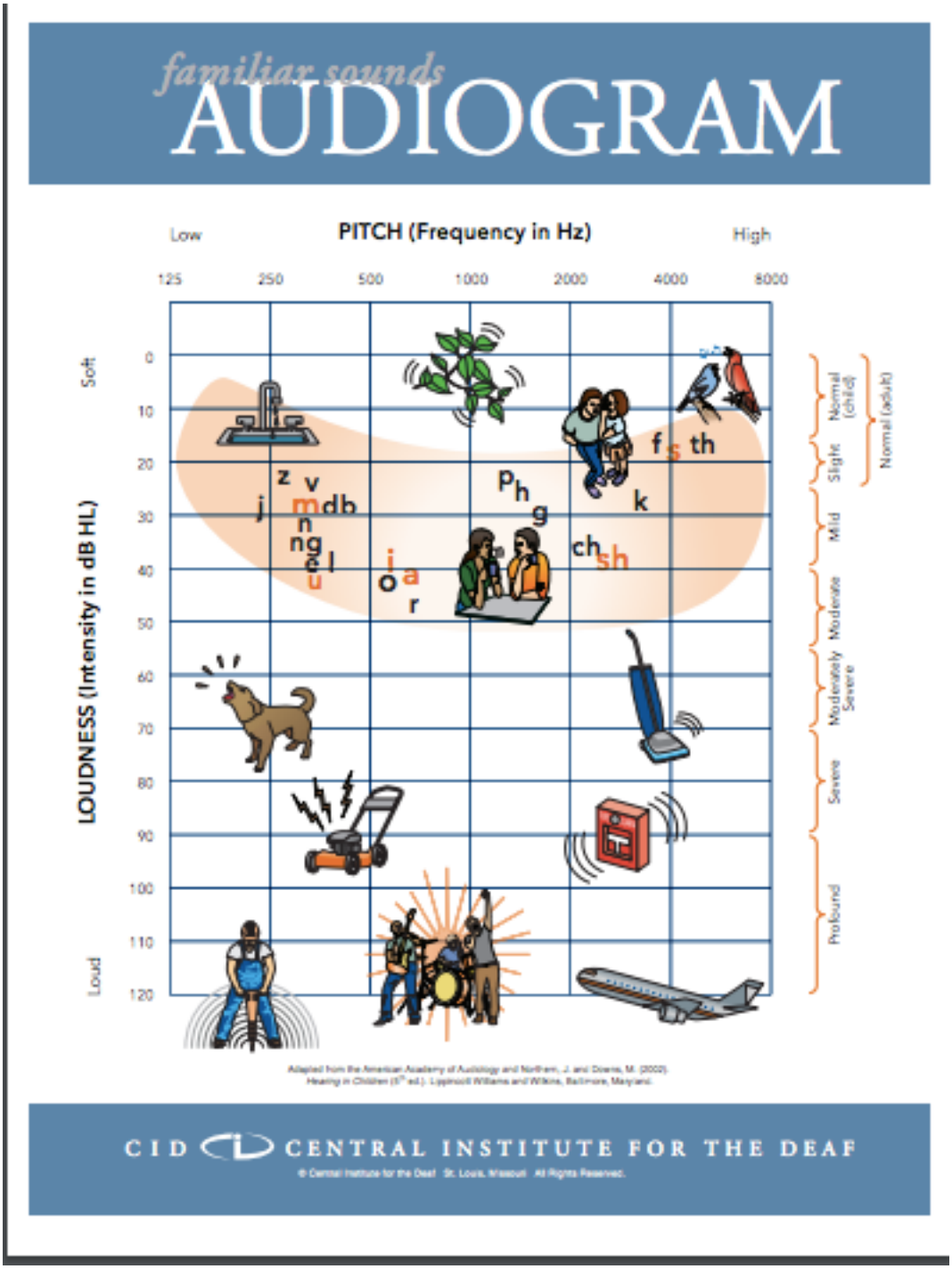

Figure 1. Familiar sounds audiogram. Adapted from "Audiogram of Familiar Sounds," by American Academy of Audiology (2017). Retrieved from https://cid.edu/wp-content/uploads/2016/05/CID-AUDIOGRAM-ENGLISH.pdf
"Hearing in children," by Northern & Downs, (2002). Philadelphia, PA: Lippincott, Williams, & Wilkins.

Types of Hearing Loss

In addition to varying degrees of hearing, three types of hearing loss exist: conductive, sensorineural, and mixed. The type of hearing loss is determined by the part(s) of the ear that are impacted. A conductive loss signifies that there is an issue in the outer or middle ear. A sensorineural loss is indicative of an issue in the inner ear or auditory nerve; therefore, interfering with the sound reaching the brain. A mixed hearing loss occurs when both conductive and sensorineural hearing loss components exist. Figure 2 is an image of a human ear. Figure 2 shows the anatomy of the human ear and areas that are impacted by conductive, sensorineural, and mixed hearing losses.

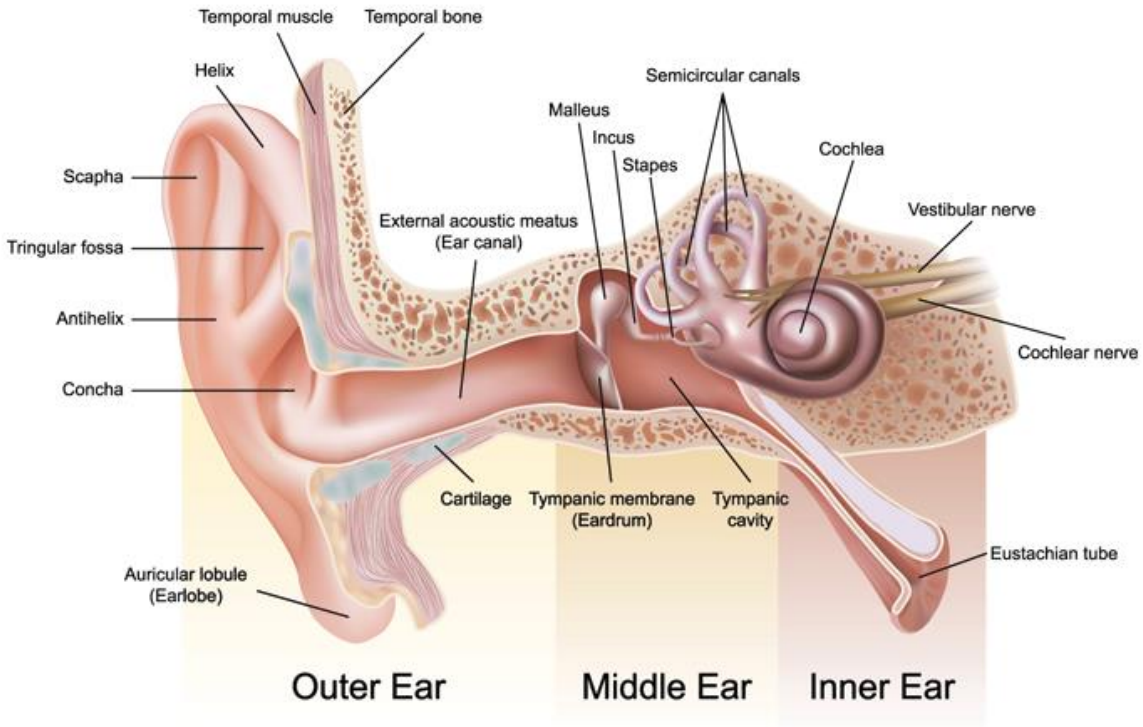

Figure 2. Anatomy of the ear. Retrieved from "How Hearing Works" by Listen 2 Life Hearing Center (2018). https://www.listen-2-life.com/how-hearing-works/

Amplification

Knowledge of degree and type of hearing loss is essential when determining proper amplification for individuals. Amplification use is determined via personal preferences, but if individuals want to have access or increased access to auditory signals, amplification can usually make that possible. Individuals who are d/DHH are recommended for amplification based on the degree of hearing loss and ears impacted by the hearing loss. Amplification devices available for use by individuals who are d/DHH include hearing aids, cochlear implants, or a combination of the two.

Communication Modalities

Broadly, two communication modalities exist for individuals who are d/DHH. One form of communication used by individuals who are d/DHH is manual communication. The most common manual form of communication is signed languages. There are multiple signed languages, most notably, American Sign Language and Signed Exact English. Another mode of communication available to individuals who are d/DHH is Listening and Spoken Language (LSL). Table 2 portrays communication modalities utilized by individuals who are d/DHH. Regardless of communication modality, optimal access to auditory information occurs through properly prescribed and programmed amplification.

Educational Services and Placements

Educational services and placements vary for individuals who are d/DHH. Characteristics such as amplification use, degree of hearing loss, and communication modality are considered when determining services and placements for individuals who are d/DHH. Figure 3 depicts the placement options available to individuals who are d/DHH.

Table 2

Communication Modalities by Percentage

Communication Modality	%
Spoken language only	53.0
Sign language only	27.4
Sign supported spoken language (SIMCOM)	12.1
Spoken language with cues	5.0
Other	2.5

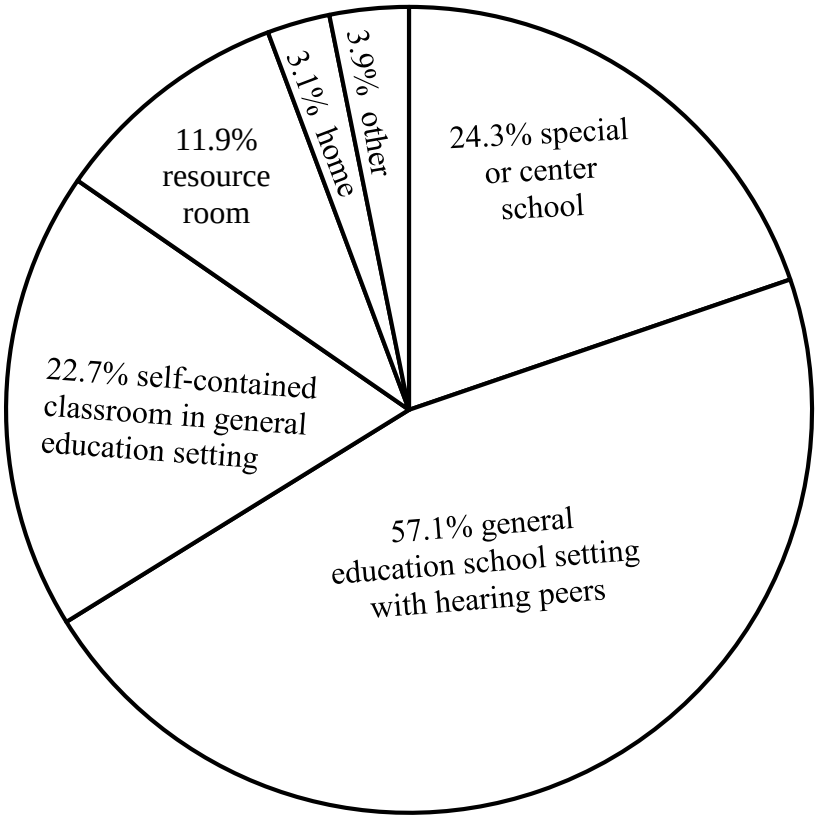

Figure 3. Distribution of educational placements for d/DHH. Modified from "Regional and national summary report of data from the 2009-10 annual survey of deaf and hard of hearing children and youth," by Gallaudet Research Institute. GRI. (2011). Washington, DC: GRI, Gallaudet University.

Characteristics of Individuals who are d/DHH/ELs

Individuals who are d/DHH may speak a native language other than English and individuals who are ELs can be born with a hearing loss. This leads to a population known as d/DHH/ELs. Of individuals who are d/DHH, 25% speak Spanish in the home (Guardino, Cannon, & Eberest, 2014). While Spanish might be the language spoken at home, that does not imply that the student will meet EL criteria. However, it is important to note that in U.S. public schools, 13.8% dually-qualify for English-language assistance and special education services (McFarland et al., 2017). This results in an even more diverse population requiring specialized intervention than simply EL or d/DHH in isolation. Individuals who are d/DHH/EL speak a native language different from the majority and do not have the same access to sound as individuals with normal hearing; therefore, presenting even more complexities related to educational programming.

Individuals within the EL and d/DHH populations as well as the combined population of d/DHH/ELs exhibit certain characteristics. Language learning needs, hearing loss, and home language are some of the many characteristics exhibited. Individuals from each population enter school with language learning needs. ELs have had exposure to a different language and individuals who are d/DHH have had a shorter duration of exposure or lack of exposure to language due to their hearing loss. Home language experiences can look different even for individuals who come from families that speak the same language. Within the same language, several variations can exist, further indicating the differences within individuals in the population. Individuals who are ELs, d/DHH, and d/DHH/ELs are only a few of the many populations that bring characteristics into schools that differ from the norm. Variety in student characteristics can bring with it challenges but can also make teaching exciting and rewarding.

Language Development

Culture, Identity, and Language

Meeting the needs of individual students can lead to success (Mahon, 2009). It is essential that careful consideration of school atmospheres and differentiated instruction are considered as needs of students are ever-changing. Differing demographics within U.S. schools are a result of fluctuating majority and minority populations within schools. Future projections yield a shift in minority and majority populations. Table 3 demonstrates race/ethnicity percentages enrolled in public/secondary schools by population in 2014 and projected for 2026.

Table 3

Demographics by Race/Ethnicity and Years

Race/Ethnicity	2014	2026
Caucasian	50%	45%
African American	16%	15%
Hispanic	25%	29%
Asian/Pacific Islander	5%	6%
American Indian/Alaska Native	1%	1%
Two or more ethnicities	3%	4%

NCELA, 2017

As minorities become the new majority, it is essential that schools are prepared to educate all students to their full potential. When thinking about the importance of this, it is helpful to look to the concept of culturally-responsive teaching (CRT). Within culturally-responsive teaching, achievement of all students is key by ensuring effective learning and teaching are happening through culturally-supported and learner-centered contexts in which strengths of students are identified, nurtured, and utilized to support student achievement (Richards et al., 2007). Three dimensions comprise culturally-responsive teaching: (a) institutional, (b) personal, and (c) instructional (Richards et al., 2007). The institutional

dimension is related to aligning administrative aspects and policies with CRT, whereas, the personal dimension relates to the cognitive and emotional aspects teachers must encounter to become culturally-responsive. The instructional dimension includes the materials, strategies, and activities used to facilitate learning (Richards et al., 2007).

Knowing the importance of CRT, a guiding document was created to serve a dual purpose. The document aims to provide common language for understanding CRT and relevant pedagogy in addition to providing recommendations for ensuring culturally-responsive teachers are present in the workforce. Table 4 displays the five domains of CRT, as well as critical teacher actions to ensure CRT is happening.

Table 4

Five Domains of Culturally-Responsive Teaching and Relevant Pedagogy

Domain	Teacher Actions
Identity and Achievement	• Identify and examine personal beliefs and biases and their impact on student expectations and learning • Recognizes the centrality of race and racism in the education system in an effort to redress inequities • Support positive identity development; embrace and promote multiple perspectives and narratives • Let students know that their voices are heard and that their contributions are valued • Acknowledge and value students' cultural heritages as worthy content to be taught and use home-community cultures as learning tools • Embrace diversity and affirm it as an asset that enhances all students' learning

Table continues

Domain	Teacher Actions
Equity and Excellence	• Provide students with what they need to succeed through differentiated instruction • Exhibit the belief that difference is good and differentiated instruction is essential for all students' learning • Provide curriculum that is inclusive of students' cultures both inside and outside the classroom • Maintain high expectations for all students and for self • Include, challenge, and support all students in and through high-level courses and educational programs • Foster and use counter-storytelling to critique mainstream and dominant cultural narratives • Interweave and acknowledge students' culture throughout the school year rather than at specific times
Developmental Appropriateness	• Know where children are in their cognitive, linguistic, social, emotional, physical, and psychosocial development in order to design and modify instruction accordingly • Consider what is culturally appropriate and relevant to students, taking into account learners' strengths, interests, and learning preferences • Acknowledge and explore prior knowledge that students bring with them to school • Demonstrate awareness of the dominant and sometimes racist, non-inclusive ideology inherent in the education system and its effects on student motivation and learning in an effort to redress inequities
Teaching the Whole Child	• Be sensitive to how culture, race, and ethnicity influence students' academic, social, emotional, and psychological development and affirm differences as assets to enhance all students' learning

Table continues

Domain	Teacher Actions
Student-Teacher Relationships	• Recognize, understand, and intentionally acknowledge cultural group transitions, but also observe and interact with students as individuals • Learn about all students, especially those who are culturally different from oneself • Acknowledge the cultural capital that students bring to school (e.g., culturally-based ways of doing, seeing, and knowing) and scaffold in order for students to gain additional meaning and ultimately be successful • Respect students for who they are as individuals and as members of a cultural group • Know and be able to translate different cultural communication styles • Create equitable and caring student relationships that extend beyond the classroom • Demonstrate a connectedness with all students and encourage such connectedness between student to foster a positive classroom community • Extend and open the classroom to collaborate with colleagues, families, and the community • Demonstrate care through patience and persistence with all learners

Retrieved from http://www.ccsso.org/sites/default/files/2018-02/Preparing%20Learner-Ready%20Teachers.pdf and Adapted from "Toward a Conceptual Framework of Culturally Relevant Pedagogy," by Brown-Jeffy and Cooper (2011).

All individuals bring different culture and language into schools, therefore, exploring the relationship among culture, identity, and language is also essential for effective teaching. A strong relationship exists between culture and language; culture is transmitted through one's language (Leveridge, 2008). Culture and language together shape individual identity. All humans are born and experience stages in life that are often similar, the difference is the

environment in which each individual grows up and the language within which they are immersed (Leveridge, 2008). Environments and language create identities within a certain culture, which results in one person differing from another. Figure 4 is a Venn Diagram that depicts the interrelatedness of culture, language, and identity.

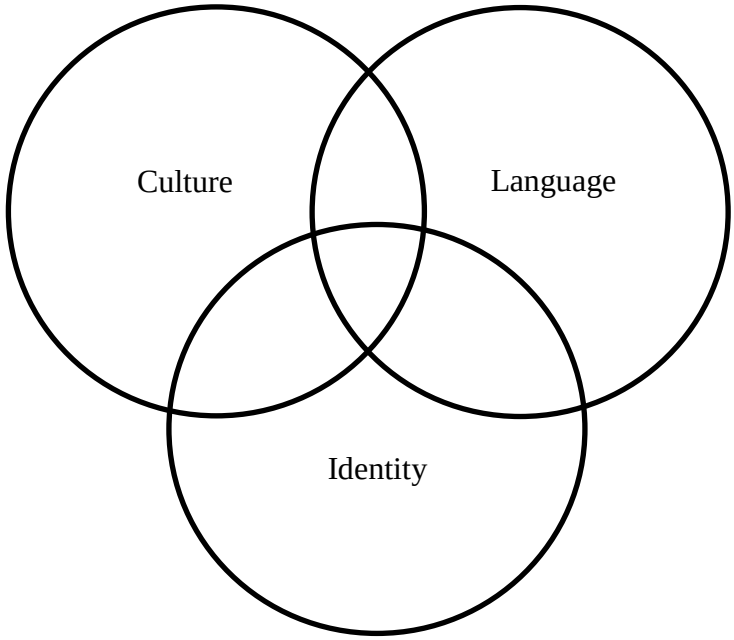

Figure 4. Overlap between culture, language, and identity.

Language is part of human development (Paul, 2009). Additionally, development of language is a complex process impacted by age, exposure, and interactions (Fierro-Cobas & Chan, 2001). Regardless of one's culture or language, individuals develop language in a similar pattern (Fierro-Cobas & Chan, 2001).

Normal Language Development

Research confirms that typically-developing infants acquire their native language by listening and come into the world predisposed to gain speech and language skills (Winegert & Brant, 2005). When infants are born, a preference towards mother's speech and stories and songs heard in utero typically exists. This can be attributed to the fact that infants have

approximately 20 weeks of listening experience as a result of the cochlea forming during the 20th week of pregnancy (Gordon & Harrison, 2005). When typically-developing infants are born, they have already had exposure to language and are well on their way to being prepared to use language. Around the age in which they take their first steps, infants also typically produce their first words. Language development progresses quickly following production of the first word (Ganger & Brent, 2004).

Similar to other developmental milestones, including walking, early language appears around the same age and in the same way around the world, regardless of the society, culture, or characteristics of the language that is being acquired (Gleason & Ratner, 2017). The brain is best apt to learn language in the first three and a half years of life (Sharma & Nash, 2009). Each child follows his or her own pattern of development, making it impossible to say all children learn to communicate in exactly the same way. However, it is still possible to describe a general pattern of communication development. Table 5 depicts some language development milestones met by typically-developing children in the first five years of life.

Table 5

Typical Language Development Milestones

Age	Skills Exhibited by Typically Developing Children
Birth to 3 months	Coos and makes pleasure sounds
	Has a special way of crying for different needs
4 to 6 months	Babbles in a speech-like way and uses many different sounds, including sounds that begin with p, b, and m
	Babbles when excited or unhappy
7 months to 1 year	Babbles using long and short groups of sounds ("tata, upup, bibibi")
	Babbles to get and keep attention
	*Individuals who are D/HH will begin babbling between 4 and 6 months and stop between 7 to 9 months
	Has one or two words by first birthday
1 to 2 years	Acquires new words on a regular basis
	Uses some one- or two-word questions (Where's doggie?)
	Puts two words together (more doggie)
2 to 3 years	Has a word for almost everything
	Uses two- or three-word phrases to talk about and ask for things
	Speaks in a way that is understood by family members and friends
3 to 4 years	Answers simple, "Who, what, where, and why?" questions
	Talks about activities at daycare, preschool or friends' home
	Uses sentences with four or more words
4 to 5 years	Uses sentences that give many details
	Communicates easily with other children and adults
	Uses adult grammar

(Adapted from NIDCD, 2016)

The above milestones are generally met by typically-developing children, ELs, and individuals who are d/DHH. However, the timeframe in which these milestones are met can differ between the populations. Most typically-developing children acquire their first language without effort or explicit instruction (Kuhl, 2010).

While language development seems to occur naturally for many children, phenomena play a role in its development. Researchers in language development have shared a variety of theories (Gleason & Ratner, 2017). To better understand language acquisition, it is critical for educators to understand the basis for theories of language development and some key principles of the main theories of language acquisition.

Variations in the number and names of the theories of language development exist. Additionally, there are some similarities between different language acquisition theories. Table 6 includes theories of language development as described in three different textbooks related to language development.

Textbooks are often avoided in research because they do not function as a primary source. To identify prominent theories of language acquisition, textbooks were used for two reasons. First, textbooks were utilized because when searching terms related to the theories of language development, no relevant results were returned. The following terms were searched in a variety of ways; *language development, language acquisition, models of language development, language theory,* and *language learning.* Secondly, textbooks are often utilized as a tool within courses that prepare teachers. When striving to meet needs of specific populations, utilizing the information that is taught as the primary base can be effective for building further knowledge.

Table 6

Theories of Language Development

Theories of Language Development	Principles	Gleason & Ratner (2017)	Kuder (2013)	Turnbull & Justice (2011)
Behaviorist Theory	Strongly favor a nurture approach to language learning; major focus on the acquisition of words and grammar; teacher and environment play critical roles; language is a learned behavior (Paul, 2009)	X	X	X
Nativist/Syntactic Theory/Modularity Theory/Universal Grammar Theory/Connectionist Theory	Language is innate; humans possess a mechanism known as a language acquisition device (LAD) (Kuder, 2013)	X	X	X
Social-Interactionist Theory/Usage-Based Theory	Relationship between social development and language acquisition (Dabrowska, 2004; Lund, 2003); focus on theories and research on pragmatics as factors that govern language choices during social intercourse (Crystal, 2006)	X		X
Semantic-Cognitive Theory/Semantic Bootstrapping Theory/Syntactic Bootstrapping Theory	Meaning precedes structure (Kuder, 2013); specific language skills correlate with the accomplishment of specific cognitive accomplishments (Gopnik & Meltzoff, 1987)		X	X
Social Interactionist Theory/Competition Theory	People talk to communicate (Kuder, 2013); language develops as children learn which linguistic form will help them express their communicative intent best (Tomasello, 2003)	X	X	X

Table continues

Theories of Language Development	Principles	Gleason & Ratner (2017)	Kuder (2013)	Turnbull & Justice (2011)
Table 6, Continued				
Cognitive Theory/Information Processing Theory	Language structures emerge due to communicative functions; unsuccessful forms of language are eliminated as a result of competition (Kuder, 2013)	X	X	X
Intentionality Theory	Being in a world of people and objects motivates individuals to acquire language; to express and articulate increasingly discrepant and elaborate state representations requires effort (Bloom, 2000)			X
Emergentist Theory	Input and biology are responsible or the emergence of language (Kuder, 2013)		X	

Three textbooks were chosen for review of language theory acquisitions. All textbooks were published within the last 10 years and were the most current published editions. Each of the textbooks reviewed for theories of language acquisition varied slightly. One textbook was geared toward typical language development, while another focused on students with language and communication disabilities, and the last one placed an emphasis on theory to practice. Even with slight variations in the structure and targeted audiences, similarities were present among the three textbooks. Four theories of language acquisition appeared within each of the texts: behavioral, nativist, social interactionist, and cognitive. The behavioral, nativist, social interactionist, and cognitive theories of language acquisition will be discussed. Information from textbooks will be incorporated within further discussions of each theory along with the minimal scholarly research found.

Theories of Language Acquisition

Language is one of the many skills needed to navigate throughout life. "Language acquisition is miraculous yet at the same time ordinary" (Cattell, 2007, p. 1). Strong language skills are a predictor of student success in school and life (Jalongo, 2008; Kalmar, 2008). It is important to understand the development of language. Theories of language acquisition can provide a basis for language learning, understanding that linguists have long debated the how and why of language learning. Regardless of the premise for language learning within each theory, all individuals have the ability to acquire language (Dastpak, Behjat, & Taghinezhad, 2017). The theories of language acquisition can help provide information on the language learning process but cannot provide precise insight on how each individual develops language.

Language acquisition can be classified as first language learning (L1) or second language learning (L2). Knowing whether a child is learning L1 or L2 is important. L1 is important in the

development of L2 because students will often use schemes within their L1 to relate to L2 (Romero & Manjarres, 2017). Throughout the discussion of the four most prominent theories of language acquisition, L1 will be the assumed language learning unless otherwise mentioned.

Behavioral Theory of Language Acquisition

The behavioral theory of language acquisition was pioneered by Burrhus F. Skinner, also known as B. F. Skinner. B. F. Skinner was an American psychologist, behaviorist, author, inventor, and social philosopher whose work included behaviorism of individuals. Within this theory, language acquisition was addressed through the lens of behaviorism. The behavioral theory states that language is learned by influence of environmental factors (Kuder, 2013). Language is further learned through reinforcement of associating words with their meanings. Once the child learns the communicative value of words and phrases, correct utterances are positively reinforced. An example of the behavioral theory would be an instance where a child says, "milk." The mother will smile and give the child milk. The child finds this outcome rewarding which in return increases the changes that he will try to use that word again. This pattern of behavior and subsequent reinforcement enhances and increases the child's language development (Ambridge & Lieven, 2011).

Behavioral Theory and ELs. Individuals who are ELs can benefit from principles of the behavioral theory during the acquisition of L2. As previously mentioned, the way in which language is acquired, according to the behavioral theory, is through meaning being attached to words which is often facilitated by communication partners and reinforcement. Attaching meaning to words is essentially learning vocabulary (Lewis, 1993). Recent research within the EL population yields that interventions should focus on vocabulary development in addition to other skills (Cassady, Smith, & Thomas, 2018; Crevecoeur, Coyne, & McCoach, 2014; Flippini,

Gerber, & Leafstedt, 2012; Johnston, Mercer, & Geres-Smith, 2018; Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani, 2003; Lugo-Neris, Jackson, & Goldstein, 2010; Simon-Cerijido, & Gutierrez-Clellen, 2013; Tam, Heward, & Heng 2006). This is not surprising, when considering the relevance of vocabulary within literacy, which contains elements of reading and oral language.

Oral language development is facilitated and fostered through opportunities to interact with adults and other individuals (National Reading Panel, 2000). Within the behavioral model, adult interactions are utilized in confirming the wants or needs of the child. Individuals who are ELs often gain language proficiency and understanding of concepts through interactions and discussions with adults. Individuals benefit from adult-directed and authentic language learning opportunities, when those are lacking learning language is difficult (Echevarría & Graves, 2011).

Behavioral Theory and learners who are d/DHH. Like ELs, vocabulary is important for language development in the d/DHH population (Beal-Alvarez, Lederberg, & Easterbrooks, 2011; Bergeron, Lederberg, Easterbrooks, Miller, & Connor, 2009; Lederberg, Miller, & Easterbrooks, & Connor, 2014; Miller, Lederberg, & Easterbrooks, 2013; Trezek & Wang, 2006; Trezek, Wang, Woods, Gampp, & Paul, 2007). Vocabulary is highly correlated to language development and has a significant role in individuals' abilities to use language for a variety of purposes within differing contexts (Montgomery, 2007; Richgels, 2004). Vocabulary learning, for all learners, can happen through both indirect and direct instruction (Armbruster, Lehr, & Osborn, 2003). Vocabulary is often acquired indirectly through interactions with adults, siblings, and peers, but students who are d/DHH often require direct vocabulary instruction (Lederberg et al., 2014).

Additionally, the behavioral theory expresses the importance of reinforcement, which in turn leads to developing the desire to communicate within individuals. Certain conversational behaviors are recommended for caregivers of individuals who are d/DHH. Recommendations when responding to the child include recognizing the child's communicative attempt, responding to communicative attempts, responding with a response that includes a question or comment which requires further communication from the child, imitating the child's production, providing the child with appropriate language to address wants and needs, and expanding the child's production semantically and/or grammatically (Cole, 1994). Parents and/or caregivers are responsible for creating and maintaining early language development opportunities for their children that are critical for language development (Shacks et al., 2014). Compelling evidence from both child development and hearing loss literature demonstrates that linguistic environments are predictive of a child's language development trajectory (Bornstein, Hayes, & Painter, 1998; Bus, van IJjzendoorn, & Pellegrini, 1995; Hall, Scholnick, & Hughes, 1987; Landry, Smith, Swank, & Miller, 2000; Pan, Rowe, Singer, & Snow, 2005; Rowe, 2008; Weizman & Snow, 2001).

Nativist Theory of Language Acquisition

Avram Noam Chomsky, best known as Noam Chomsky, was known for the nativist theory of language acquisition. He was an American linguist, philosopher, cognitive scientist, logician, political commentator, and activist. Chomsky is sometimes referred to as the "father of modern linguistics" (Chomsky, 1986). Chomsky's work on children's abilities to acquire language led him to the nativist view of language acquisition. Language acquisition through the lens of the nativist theory of language acquisition, refers to language being innate. Chomsky posited that individuals are hardwired with language at birth (Kuder, 2013). Chomsky believed

that children are not only born ready to learn language, but their brains possess a mechanism called a language acquisition device (LAD) (Chomsky, 1986). The LAD consists of basic grammatical categories and rules that are common to all languages. Chomsky stated that exposure to language is all that is needed to activate the LAD.

Nativist Theory and ELs. ELs can exhibit varying language levels. Strong L1 abilities and weak L2 abilities or any combination of the two can be characteristic of ELs. Within the context of the nativist theory, it is essential to consider variances in exposure. Like other language learners, ELs receive input from the people around them in L1, therefore, hearing a specific language for long periods of time. When L2 instruction occurs at school, where other demands are placed on students, it is important to be cognizant of language expectations. Exposure to L2 alone is insufficient for developing L2 (Harper & de jong, 2004). Rich language input and encouragement of meaningful student interactions are recommended classroom practices for both L1 and L2 development (Peregoy & Boyle, 2009).

Nativist Theory and d/DHH. The nativist theory of language acquisition focuses on the fact that individuals are born with an innate capacity to learn language and language exposure is sufficient for individuals to learn language. Adequate exposure to language in quality and quantity is critical for students who are d/DHH. Quality and quantity of language is achieved through rich language experiences and ample opportunities for exposure and use of language (Beal-Alvarez et al., 2011; Bergeron et al., 2009; Miller et al., 2013; Trezek & Malmgren, 2005; Trezek & Wang, 2006). When more specifically focusing on one aspect of language, vocabulary, research suggests the importance of providing multiple opportunities for exposure to vocabulary words in a variety of contexts (Stahl, 2005; Miller et al., 2013; Trezek & Malmgren, 2005). Multiple exposures alone are not enough; students must have the information presented

in a variety of contexts and ways to provide the most practice (Soukup & Feinstein, 2007). Based on the abilities of individuals who are d/DHH as well as ELs, exposure to English may or may not be adequate for developing English proficiency (Paul, 2009).

Social Interactionist Theory of Language Acquisition

Lev Vygotsky and Jerome Bruner are most-known for the social interactionist theory of language acquisition. Vygotsky was a developmental psychologist and social constructivist. Bruner was an American psychologist who was well-known for his contributions to human cognitive psychology and the cognitive learning theory in educational psychology. The social interactionist theory of language acquisition focuses heavily on the social aspects of life that are important to language acquisition. Within this theory, a strong emphasis is placed on the fact that people talk to each other to communicate. People believe that language develops as children learn to choose the linguistic form that will best express their communicative intent (Tomasello, 2003). Vygotsky proposed the zone of proximal development (ZPD). The ZPD represents the optimal area in which individuals learn. This encompasses the consideration of what individuals can do with and without help (Wertsch, 1984). Social interactions and the ZPD play an important role in the learning process and provide learners with the opportunity to construct new language through social interactions.

Social Interactionist Theory and ELs. Research is conflicting in EL's ability to benefit from instruction that is effective for native ELs. Research by Mathes, Pollard-Durodola, Cardenas-Hagen, Linan-Thompson, and Vaughn (2007) demonstrated that ELs benefit from the same, explicit, systematic instruction that is proven to be effective with native English speakers. The social interactionist theory of language acquisition places more emphasis on learning language through more informal situations such as discussions. Peer-mediated instruction (PMI)

has been demonstrated as effective with ELs (Calhoon, Otaiba, Cihak, King, & Avalos, 2007; Choi, Oh, Yoon, & Hong, 2012; Jozwik & Douglas, 2017a; McMaster, Kung, Han, & Cao, 2008; Sáenz, Fuchs, & Fuchs, 2007) which occurs through Peer Assisted Learning Strategies (PALS) or Cooperative Learning Structures (CLS). PMI was developed and utilized within the field of autism as a way for typically-developing students to interact and help individuals with autism to learn new social skills through increasing social opportunities within the natural environment (English, Goldstein, Shafter, & Kaczmarek,1997; Odom et al., 1999; Strain & Odom, 1986). When utilizing PALS with the EL population, a high-performing student is paired with a low-performing student. The interactions are reciprocal, but the higher-performing student always begins as the coach (Calhoon et al., 2007). The use of PMIs and effectiveness of their implementation demonstrates the effectiveness of social interactions for ELs' language acquisition. Goodrich, Lonigan, and Farver (2013) recommend the use of the High/Scope curriculum which includes active participatory learning and scaffolding, two components that are present within the social interactionist theory.

Social Interactionist Theory and d/DHH. One component of language development is pragmatics. Pragmatics refers to language use within situations and contexts (Paul, 2006). Pragmatics fits into the parameters of the social interactionist theory, given it places an emphasis on social interactions for language learning. According to Goberis et al. (2012), pragmatic use develops slower in individuals who are d/DHH. This does not mean that social interactions are ineffective with students who are d/DHH. Within the field of d/DHH, models are effective for learning (Miller et al., 2013). However, delays in pragmatic language presented by individuals who are d/DHH might make social interactions more difficult as a tool for language learning. Therefore, the need for explicit language instruction continues to be essential for individuals who

are d/DHH to acquire information and new skills (Beal-Alvarez et al., 2011; Bergeron et al., 2009; Lederberg et al., 2014; Luckner & Cooke, 2010; Luckner, Sebald, Cooney, Young, & Muir, 2005/2006; Miller et al., 2013; Trezek & Malmgren, 2005; Trezek & Wang, 2006; Trezek et al., 2007; Wang, Spychala, Harris, & Oetting, 2013).

Cognitive Theory of Language Acquisition

Benjamin Bloom, Jean Piaget, and Lev Vygotsky made contributions to the cognitive theory of language development. Benjamin Bloom, an American psychologist, provided input to the classification of educational objectives and to the theory of master of learning. Jean Piaget was a clinical psychologist and leader in the field of child development. Lev Vygotsky was a developmental psychologist who also made contributions to the cognitive theory of language acquisition. The cognitive theory of language acquisition focuses on the development of the whole child and identifies language as an important component. Language learning is virtually impossible without knowledge according to this theory. Stages of cognitive development, proposed by Piaget, are the means for which language is learned. The stages of cognitive development include sensorimotor, preoperational, concrete operational, and formal operational. These stages begin at birth and progress through adulthood. Learning takes place throughout the stages.

Cognitive Theory and ELs. Due to a decreased language level, vocabulary can be limited in EL learners which can lead to challenges within the language learning process. For everyone, several considerations go into the language learning process, but for any child, developmental readiness is key (Robbins, Koch, Osberger, Zimmerman-Phillips, & Kishon-Rabin, 2004). Emerging language is a characteristic of many ELs, whereas, gaps in educational performance compared to peers can be characteristic of some ELs (Goldenberg, 2008). As ELs

become familiar with their new environment and educational system and receive appropriate supports, they begin to learn language.

Cognitive Theory and d/DHH. Similar to ELs, individuals who are d/DHH might not learn language at each corresponding stage of cognitive development. Any degree of hearing loss puts children at risk for language delays (Moeller, Tomblin, Yoshinaga-Itano, Connor, & Jerger, 2007). Therefore, being prepared to learn language at each cognitive stage could prove difficult. This is why intervention as early as possible is critical. While intervention does not always occur, the average age at which intervention begins has drastically decreased (Niparko et al., 2010). Intervention beginning at an earlier age aids in mastery of skills closer to biologically-intended times and increases the possibility of developmental synchrony. Humans are designed to master specific skills during certain development periods. If this happens, individuals are progressing under a developmental paradigm, not a remedial paradigm (Robbins et al., 2004).

Additionally, when working with individuals who are d/DHH and determining foundational knowledge on which to build additional skills, checks for understanding are often utilized. Checks for understanding are used to determine student understanding and are often in the form of questions asked of the student. Barriers in the learning of individuals who are d/DHH include unfamiliar vocabulary, misunderstanding new concepts, missing important information due to limited auditory access, difficulty knowing important versus unimportant information, and increased listening challenges with competing background noise (Perigoe & Goldberg, 2005). These barriers make it is essential for teachers to use questioning as a tool for comprehension. Questions with "yes" or "no" responses need to be avoided and questions that focus directly on the content need to be utilized initially with expanded questions being implemented following

understanding of content (Perigoe & Goldberg, 2005). Questioning and responses relate directly to cognition. Sometimes simple questions are utilized for cognitive purposes, but with the d/DHH population expansion must always be incorporated even if asking "yes" or "no" questions.

Language Acquisition

Despite many theories and vast amounts of research, we still do not know exactly how and/or why language develops (Cole & Flexer, 2011). Although holding the fascination of many researchers over the years, the highly complex cognitive process of language acquisition remains unresolved. What is known is that the development of language is a complex task, therefore, many strategies and supports are necessary for successful language development. ELs and individuals who are d/DHH have the ability to learn language, however, enriched language opportunities are often needed (Genesee, Lindholm-Leary, Saunders, & Christian, 2005) due to certain characteristics that can impact language learning.

Individuals who are d/DHH and individuals who are ELs can encounter similar experiences that make their language-learning processes comparable in nature. Age, home language, instruction, and importance of L2 acquisition can positively or negatively impact the process. For instance, the age at which L2 learning begins can make a difference. The earlier the language-learning process begins, the better (Baker, Burns, Kame'enui, Smolkowski, & Baker, 2015; Burns et al., 2016; Cirino et al., 2009; Farver, Lonigan, & Eppe, 2009; Flippini, Gerber, & Leafstedt, 2012; Lesaux & Siegel, 2003; Luckner & Cooke, 2010; Luckner et al., 2005/2006); however, certain situations can lend themselves to language learning at various times throughout life. Home language use can also play a role. Language use at home can occur in a variety of ways. ELs can be exposed to their native language only when certain family

members are present, or they can be expected to solely use their native language at home. Similar to ELs, individuals who are d/DHH can be immersed in their language at home or be in situations where their family members do not use the same mode of communication (for example, if a parent does not know American Sign Language). Instruction in L1 is also relevant. Stronger L1 skills have been proven beneficial in development of L2 (August, Shanahan, & Escamilla, 2009; Cirino et al., 2009; Lugo-Neris et al., 2010; Miller, Mackiewicz, & Correa, 2017; Summers, Bohman, Gillam, Pena, & Bedore, 2010; Swanson, Saez, & Gerber, 2006; Tong, Lara-Alecio, Irby, Mathes, & Kwok, 2008; Vaughn et al., 2006), therefore, students who have a strong language base when learning a new language tend to have better results. ELs might have had experiences where they received formal instruction in L1 and they also might come from experiences where L1 only occurred through informal interactions. Given age of diagnosis and communication mode utilized, individuals who are d/DHH often have delays in language due to limited access and input. Lastly, the importance of L2 acquisition in terms of use can make a difference. If L2 use is needed to meet basic needs, the ability to use it is going to be different than if there is not an expectation to use L2. This is the same for individuals who are d/DHH. Language use is key for growth in language (Cole & Flexer, 2011).

Characteristics can be present that make the language learning process for ELs and d/DHH different than that of typically-developing individuals. This can lead to the potential need of additional supports and careful placement considerations for individuals with certain needs. Some supports and placement considerations have been solidified based on past situations. Reviewing relevant laws and history is important because of the impact they have on education today.

Legislative Support

Laws mandate districts to appropriately educate all students. Individuals who are d/DHH qualify for services and placement considerations under IDEIA, whereas, individuals who are solely ELs do not fall under the IDEIA federal mandate. However, federal guidance on qualifications that consider one as an EL are available. Therefore, the mandates between the two populations are different. Illinois school code provides direction for determining appropriate educational placements and supports for ELs. School code criteria has evolved over the years because of influential court cases related to the education of ELs.

Influential Court Cases in EL Education

History plays a significant role in shaping the future. While the EL population is not new in the United States, previous situations have led to new knowledge on the most beneficial ways to provide educational programming. Increased knowledge has subsequently led to more appropriate educational experiences for ELs. To better understand where the mandates for the EL population originated, court cases were reviewed and will be discussed.

In 1974, the San Francisco Unified School District received an influx of approximately 3,000 students from China (San Francisco Public Schools [SFPS], 2017). Approximately 1,000 of the students were provided supplemental English instruction while the remaining students were placed in special education and forced to remain in the same grade year after year. This was considered a violation of the Civil Rights Act of 1964 (SFPS, 2017). This act outlawed discrimination based on race, religion, sex, or national origin. Later, the civil rights movement led to the establishment of the Equal Education Opportunities Act (EEOA) of 1974 (SFPS. 2017). The EEOA prohibits discrimination and requires schools to act in eliminating racial segregation and increasing equal participation. Individuals must receive appropriate educational

supports and proper placements regardless of race, religion, sex, or national origin. School districts must offer bilingual education to students who are ELs (Lau v. Nichols, 1974).

Castañeda v. Pickard (1978) led to the development of a test used to determine if students with limited English proficiency were denied equal educational opportunities. This was a result of a parent of two Mexican-American children claiming the district discriminated based on ethnicity. Parents stated that classrooms were segregated both racially and ethnically. Lau v. Nichols required the establishment of bilingual education, but standards for evaluating bilingual programs remained nonexistent. Criteria were established for assessing bilingual programs. It was determined that bilingual programs must include resources for personnel, instructional materials, and space as well as utilizing a sound educational theory basis all while having the potential to overcome language barriers/handicaps (Castañeda v. Pickard, 1978).

Events in history provided for the education of individuals who are ELs to evolve over the years. Due to unfair educational opportunities in the past, laws have been established to protect students from historically marginalized populations. When a student who is an EL enters schools, s/he must undergo a two-step process to determine appropriate supports and educational placement.

EL Eligibility in Schools

When individuals who speak a native language other than English enter school, steps are taken to determine appropriate educational services and placement. Two steps are part of the initial identification process. The first step contains a home language survey, which is developed by each school district. The home language survey is used to identify students who may not be proficient in English and specifically seeks to determine students who speak a language other than English and/or come from a home in which a language other than English is used. If

students speak another language or come from a home where another language is spoken, they must be screened. The second step includes a screener evaluation. The screener evaluation is conducted to determine instructional placement. Any potential ELs are formally screened to determine if they need to be enrolled in a language instruction educational program. Students who do not score proficient on the screener evaluation are considered ELs and must be enrolled in a transitional bilingual education program or transitional program of instruction. Each of the two steps provide the district with necessary information needed to best educate the EL (Linquanti & Bailey, 2014). Due to variations in native language experiences and exposure and knowledge of second language acquisition, the EL population leaves room for interpretation regarding education setting and individuals who are d/DHH do not.

IDEIA

IDEIA is a federal law that provides funding to states for the education of over 6 million students receiving special education services (IDEIA, 2004). IDEIA is comprised of four parts: Part A, Part B, Part C, and Part D (IDEIA, 2004). Part A of IDEIA explains the purpose and defines terms used within IDEIA (IDEIA, 2004). Part B describes school requirements for individuals ages 3 through 21 (IDEIA, 2004). Part C provides information for families of children ages birth to two (IDEIA, 2004). Part D of IDEIA explains resources and initiatives to improve special education (IDEIA, 2004). Under IDEIA there are 13 disability categories: autism, deaf-blindness, deafness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairments, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment (IDEIA, 2004).

Individuals who are d/DHH qualify for services provided by IDEIA under the disability category of deafness or hearing impairment. EL is not a disability category under IDEIA. Individuals who are ELs can qualify for services under IDEIA, but not because of their emergent language skills. If an EL meets criteria for one of the 13 federal disability categories, then they will receive dual services in the areas of special education and language assistance. According to the National Clearinghouse for English Language Acquisition (NCELA, 2017), 9.2% of students with disabilities are ELs.

d/DHH Eligibility in Schools

Deafness and hearing impairment are disabilities categorized by IDEIA. Deafness is an appropriate diagnosis when inability to process linguistic information with or without amplification occurs because of the severity of the hearing loss. Fluctuating or permanent hearing loss that impacts educational performance best describes a hearing impairment (IDEIA, 2004). Individuals with a diagnosis of deafness have a loss of 90 dB or greater and individuals with a diagnosis of hearing impairment have a loss of 90 dB or less (IDEIA, 2004). Therefore, individuals with any degree of hearing loss can qualify for services under IDEIA.

Conclusion

Knowing how normal language develops, theories of language acquisition, and legal mandates related to the education of ELs and individuals who are d/DHH, it is important to investigate how to best support language development within individuals who are ELs and d/DHH. Additionally, it is essential to look further at the combined population of individuals who are d/DHH/EL. Significant differences between the language acquisition of typically-developing children and individuals who are ELs and d/DHH do not necessarily exist. However, understanding language acquisition along with components of EL and d/DHH language

development is important in determining what additional support is needed to lead to successful educational and life outcomes.

CHAPTER II: REVIEW OF RELATED LITERATURE

Language and literacy are the cornerstones for communicating and understanding the world around us. Strong language skills are essential for success in school and life (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008), and literacy is one of the best predictors of education and life skills competencies (Neumann, Copple, & Bredekamp, 2000). The influence that language and literacy have on educational success leads to the importance of teachers being familiar with strategies that can support language and literacy acquisition of students.

Language and literacy development are critical in success in education and life. It is even more important for educators to know strategies that aid in language acquisition and literacy development as we look at certain ever-changing demographics in schools. The majority and minority populations within the United States are constantly changing. Future projections for the year 2026 estimate percentages of students enrolled in public and secondary schools by race/ethnicity as follows: 45% Caucasian, 15% African American, 29% Hispanic, 6% Asian/Pacific Islander, 1% American Indian/Alaska Native, and 4% two or more ethnicities (National Center for English Language Acquisition [NCELA], 2017), therefore, indicating a decrease in the majority population of Caucasian individuals. According to recent statistics from the NCELA (2017), ELs comprise 8.8% of the school population. In addition to ELs, other individuals present with language and literacy needs. This chapter will address the following elements: (a) populations with language and literacy needs, (b) language acquisition, (c) literacy development, (d) research questions, (e) methods, (f) discussion, (g) teacher of the deaf knowledge, and (h) methods.

Populations with Language and Literacy Needs

Individuals who are ELs, ELs with disabilities, and individuals who are d/DHH are among populations who have specific language and literacy needs. All three populations present with different statistics and characteristics. To better understand the individual populations, more details will be provided. Finally, discussion will take place regarding students who are part of the combined populations.

ELs

The EL population is one that has been increasing and future projections expect it to continue to increase (NCELA, 2017). ELs are defined by two criteria. First, ELs are individuals who currently use or live in an environment where a language other than English is the primary language. Secondly, ELs score in the "limited English proficiency" range on screeners and assessments that are administered annually per federal regulations (Cook et al., 2012). Given this background, ELs often enter school and struggle academically (August et al., 2009). To best meet the needs of ELs, a variety of program models are available ranging from immersion solely in native language to immersion in English language and are determined based upon individual student needs (Curtin, 2009).

d/DHH

Another group of individuals who exhibit language and literacy needs is the d/DHH population. According to the National Institute on Deafness and Other Communication Disorders (NIDCD, 2016), approximately 0.38% of the population is d/DHH. Individuals who are d/DHH are best defined as individuals who have a degree of hearing loss in one or both ears and do not have the same access to sound as individuals with normal hearing (NIDCD, 2015). Due to limited auditory access, individuals who are d/DHH display delays in the area of speech

development, language acquisition, communication, and learning (American Speech-Language Hearing Association [ASHA], 2017) which ultimately impacts literacy development. To meet the needs of individuals who are d/DHH, different communication modalities and program options are available. Communication modalities range from LSL approaches to MC approaches. The options that fall under LSL and MC approaches vary based upon the emphasis they place on hearing technology, manual communication, and cues to focus on spoken language. Some individuals use a combination of approaches and some individuals may change their course of communication throughout life (Gardiner-Walsh & Lenihan, 2017). Literacy instruction for individuals who are d/DHH might look different based on the communication modality utilized and access to sound.

ELs with Disabilities

Individuals with disabilities comprise 19% of the U.S. population (U.S. Census Bureau, 2012). An individual with a disability is best defined as an individual who has a disability that adversely affects their ability to function in school and life (Individuals with Disabilities Education Improvement Act [IDEIA], 2004). Disabilities under IDEIA (2004) include; autism, blindness, deafness, emotional disturbance, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment. According to the IDEIA, a child must meet two criteria to receive special education services. First, they must exhibit one of the thirteen disabilities listed under IDEIA and second, they must require special education and related services (IDEIA, 2004). Programming and placement options vary for individuals with disabilities and can include instruction in a self-contained classroom or instruction in a general education classroom or a combination of both (Learning Disabilities Association [LDA],

2012). ELs are not excluded from this population, especially when considering that of the individuals who are ELs 9.2% have disabilities (NCELA, 2017). Individuals who are d/DHH are also not excluded from this population considering that, of individuals who are d/DHH, almost 40% have additional disabilities (Gallaudet Research Institute [GRI], 2011). When further analyzing populations, it is important to consider that individuals who are d/DHH are also not excluded from the EL population.

d/DHH/ELs

Of the students who are d/DHH, approximately 25% come from homes where a language other than English is spoken (Guardino et al., 2014). Individuals who are part of the d/DHH/EL population do not speak the native language of the majority and do not have the same access to sound as typically-hearing individuals do. Individuals who are d/DHH/ELs will be included within the ELs with disabilities category moving forward.

Regardless of an individual's background and the characteristics that coincide with their background, both language acquisition and literacy development are essential for academic success (National Early Literacy Panel [NELP], 2009). It is important to understand language acquisition and literacy development individually. It is also important to understand the intersection of the two.

Language Acquisition

Oral language is the way individuals communicate with each other and includes both speaking and listening (National Reading Panel [NRP], 2000). Thinking, problem solving, and developing and maintaining relationships are skills that are fostered through language development (Moretti & Peled, 2004). Initiation of language development at a young age is critical to development (Leffel & Suskind, 2013). Individuals who are ELs, individuals who are

d/DHH, and ELs with disabilities have the ability to learn language. Research indicates that while the previous populations can learn language, they often require enriched language learning opportunities and, even after, often still meet milestones later than their typically-developing peers (Genesee et al., 2005).

Literacy Development

Like language development, literacy growth is critical to one's success in life (NRP, 2000). Literacy development supports a child's ability to read and write and begins developing at a young age (Roth, Paul, & Pierotti, 2006). Individuals who are ELs, individuals who are d/DHH, and ELs with disabilities have the ability to become literate. Due to differences in language, ELs experience challenges in academic achievement, specifically, learning to read (Cruz de Quirós, Lara-Alecio, Tong, & Irby, 2012). Due to decreased auditory information and delays in language, individuals who are d/DHH often struggle with reading and demonstrate outcomes that are below those of their typically-developing peers despite intense efforts and ever-changing effective strategies (Spencer & Marschark, 2010). ELs with disabilities are faced with multiple challenges while trying to learn a new language, master subject matter, and cope with potential impact of their disabilities (Correa & Heward, 2000; Gersten & Jimenez, 1998), therefore, may also face multiple obstacles while trying to learn to read.

Relationship between Language and Literacy Development

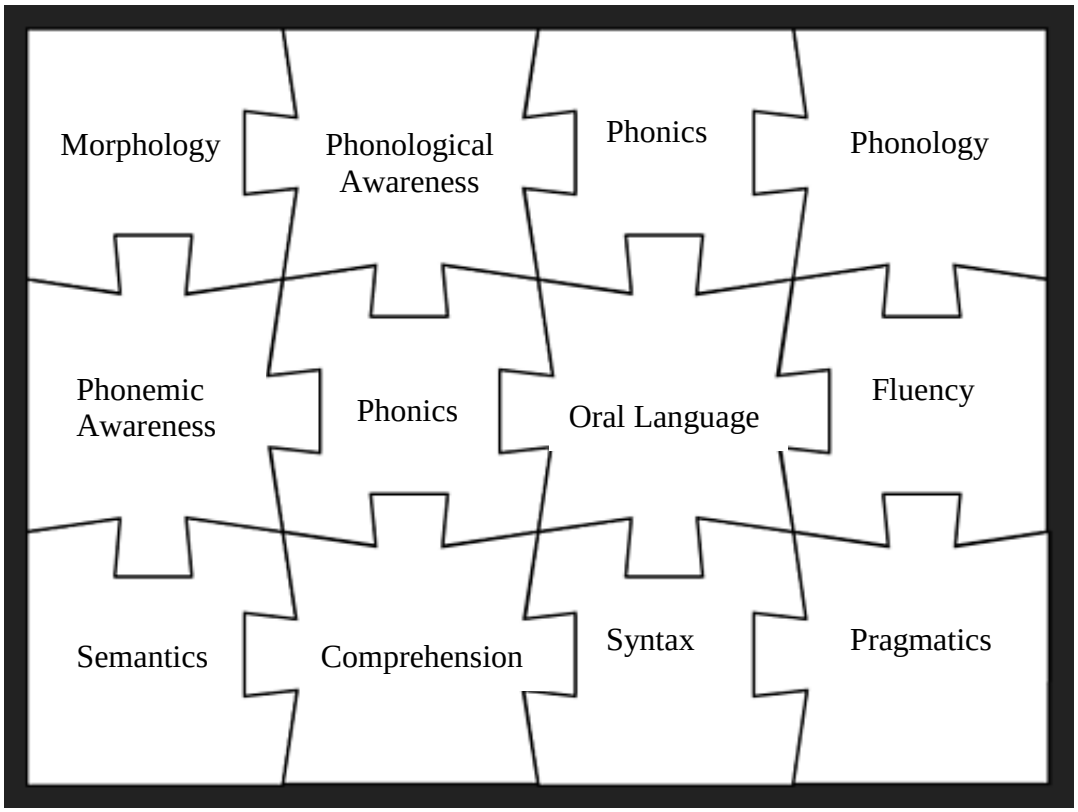

Figure 5. Components of Language and Reading. Adapted from "Language and Deafness," by Paul, P. V. (2009). Sudbury, MA: Jones and Bartlett Publishers & "Report of the National Reading Panel: Teaching Children to Read—An Evidence-Based Assessment of the Scientific Research Literature on Reading and its Implications for Reading Instruction," by National Reading Panel. NRP. 2000. Jessup, MD: National Institute for Literacy.

Figure 5 displays components of both language and reading development. Components of language include phonology, morphology, syntax, semantics, and pragmatics, whereas, components of reading include vocabulary, phonemic awareness, comprehension, phonics, and fluency. Figure 5 portrays the component of reading and language as puzzle pieces because components of each are interrelated (Bender & Larkin, 2009) and skills build upon each other (National Reading Panel [NRP], 2000). Table 7 briefly defines each component of language and reading.

Table 7

Definitions of Language and Literacy Components

Language or Reading	Component	Definition
Language	Phonology	Refers to the sounds (phonemes) within language (Paul, 2009).
Language	Morphology	Study of meaningful units of language and how they are combined in forming words (Paul, 2009).
Language	Syntax	Way in which words are put together to form phrases, clauses, or sentences (Paul, 2009).
Language	Pragmatics	Use of language within situations and contexts (Paul, 2009).
Language	Semantics	Meaning of words, phrases, and sentences (Paul, 2009).
Reading	Vocabulary	Words of a language including single words, word chunks, and phrases that convey meaning (Lewis, 1993).
Reading	Phonemic Awareness	Ability to manipulate individual sounds (phonemes) in words (Bender & Larkin, 2009).
Reading	Comprehension	Ability to make meaning and understand material that is read or heard (Bender & Larkin, 2009).
Reading	Phonics	The correspondence of letters to speech sounds or phonemes (Bender & Larkin, 2009).
Reading	Fluency	Ability to demonstrate effective reading skills and decode words with automaticity (Bender & Larkin, 2009).

While language and reading have separate and unique components, as portrayed in Table 7, it is important to recognize the interrelatedness between the areas of reading and language (Bender & Larkin, 2009). Recently, an emphasis has been placed on early literacy instruction

versus solely reading instruction (Armstrong, 2007; McCutchen et al., 2002). The difference between reading instruction and literacy instruction is that literacy instruction places an emphasis on reading skills such as phonics and reading comprehension (Bos, Mather, Silver-Pacuilla, & Narr, 2000; Smith, Baker, & Oudeans, 2011) while also focusing on a larger set of skills that support and enhance skills in reading such as speaking, writing, and listening effectively (Winn & Otis-Wilborn, 1999). Given the fact that recent research has lumped language and reading together into the category of literacy, the remainder of this paper will refer to these skills together as literacy. Regardless of similarities and differences between the individual components of language and reading, they rely on each other to develop and when combined, form literacy. Moving forward, strategies will be discussed that can aid in comprehensive literacy development. To determine strategies utilized to support each population in language and literacy development, three reviews of literature were conducted.

Research Questions

The purpose of the literature reviews was to determine strategies utilized to aid in the development of literacy (encompassing language) for three different populations of individuals: ELs, individuals who are d/DHH, and ELs with disabilities. The following four research questions were sought to be addressed following the review of literature:

1.) What are strategies utilized with individuals who are ELs to support language acquisition and literacy development?
2.) What are strategies utilized with individuals who are d/DHH to support language acquisition and literacy development?
3.) What are strategies utilized with individuals who are ELs with disabilities to support language acquisition and literacy development?

4.) Do differences exist amongst strategies utilized to aid in language acquisition and literacy development among ELs, ELs with disabilities, and individuals who are d/DHH?

Methods

Article Selection Process

A three-step process was utilized to locate articles. First, a comprehensive search of seven databases was conducted. Based on the returned results, selection criteria were then applied to determine which articles would be included in the review. Following those two steps, reference list searches were conducted. Searches were done in this manner in an attempt to locate all articles focused on language and literacy interventions for each of the populations.

Searches in databases. Computer searches of the following databases were conducted: Academic Search Complete, Cumulative Index of Nursing and Allied Health Literature (CINAHL) Plus with Full Text, Education Full Text, Educational Resources Information Center (ERIC), MEDLINE, Professional Development Collection, and PsychInfo. Search terms were searched in conjunction with Boolean terms AND and OR to determine results for each population. For the English learner population, "*language interven* OR literacy interven* AND English as a second language"* were searched. To elicit a set of articles for individuals who are English learners and have disabilities "*language interven* OR literacy interven* AND English as a second language AND disab**" were searched. To determine articles for the d/DHH population, "*language interven* OR literacy interven* AND deaf OR hard of hearing OR hearing impaired OR d/hh OR hearing* were searched.

Inclusion/exclusion criteria. Following searches, titles and abstracts were read to determine article inclusion and exclusion.

For the EL population, articles were included that:

1. utilized students who were enrolled in preschool through 8th grade;
2. described an intervention to enhance literacy skills;
3. concentrated on individuals who were acquiring English as English learners versus choosing to learn a foreign language;
4. conducted in the United States or another country where English was the primary language spoken;
5. shared strategies as part of their methods, results, or discussion; and
6. were not content-specific or related to a specific content area such as science.

For the d/DHH population, articles were included that:

1. utilized students who were enrolled in preschool through 8th grade;
2. described an intervention to enhance literacy skills; and
3. shared specific strategies within the methods, results, or discussion.

For the EL population with disabilities, articles were included that:

1. utilized students who were enrolled in preschool through 8th grade;
2. described an intervention to enhance literacy skills;
3. identified participants as having a disability as defined the by the Individuals with Disabilities Education Improvement Act (IDEIA, 2004);
4. conducted in the United States or another country where English was the primary language spoken;
5. shared strategies as part of their methods, results, or discussion; and
6. were not content-specific or related to a specific content area such as science.

Studies that focused on one individual component of language acquisition or literacy development were included as long as they met the set criteria for the given population. Searches were not limited by date or other limiters. The earliest study found for the EL population was published in 2000 and the most recent was 2017. For the d/DHH population, the earliest study found was published in 1972 and the most recent was published in 2017. The earliest study found for the population of EL with disabilities was published in 1981 and the most recent was 2017. When looking at the EL with disability population, articles were only included that utilized participants with diagnosed disabilities. Articles exist that focus on struggling learners. Characteristic differences exist between struggling learners and individuals with diagnosed disabilities, therefore, struggling learners were not part of the EL with disability search results; instead they were included in the EL table.

Studies were eliminated that focused on individuals younger than preschool and older than 8th grade. The reason for excluding studies that focused on individuals younger than preschool was due to the fact that the focus with this population is on very early-developing skills and this study is looking at skill development of school-aged children. Interventions prior to the age of three are often parent-implemented as part of the early intervention process (Mahoney et al., 1999). Studies were excluded for students in high school and beyond because typical reading development occurs during the elementary school years and as children progress through the grades, they begin reading to learn at older ages (Center for Public Education [CPE], 2015). Articles were excluded in the EL with disability search results if a specific disability as categorized by IDEIA was not discussed. Additionally, content-specific articles were eliminated because of their specificity within one subject matter. The intent was to find articles that focused

broadly on literacy development strategies that could then be generalized to specific content areas.

Analysis

After developing a list of all possible articles, the articles were read and tables for each population were created. The tables included participants, independent variable(s), characteristics of intervention, language of intervention, dependent variable(s), and findings (see Tables 8, 9, and 10. Following creation of Tables 8, 9, and 10 intervention characteristics were coded for common themes. Common themes were pulled out and categorized and placed into a table to show the similarities and differences of studies in a broader sense (see Tables 11, 18, and 25). Individual tables were then created for each of the broader areas to exhibit the articles that addressed each of those items as well as the characteristics. Tables 12-17 display that information for the EL population, whereas, Tables 19-24 address the d/DHH population and Tables 26-30 portray information gathered for the EL with Disabilities population. Table 31 was created to comprehensively show strategies by population. From the information displayed in Table 31, Figure 6 was created in an attempt to show a possible intervention package for the d/DHH/EL population in regard to literacy learning.

Results

After applying inclusion and exclusion criteria to the initial number of articles returned, a lesser number of articles remained for analyzing. Table 8 portrays the articles that were analyzed within the EL population. Of the initial search return of 420 results, 30 articles were reviewed. Table 9 includes the 8 articles that were further analyzed for the d/DHH population. The initial search returned 460 results. After applying inclusion and exclusion criteria, 8 articles remained. Table 10 displays information for the 9 EL with disability articles that were reviewed after a

search return of 77 articles. For each population, article information was categorized into tables by author(s), participants, independent variable(s), characteristics of intervention, language of intervention, dependent variable(s), and findings.

Table 8

Results on Literacy Development Strategies for ELs

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
1	Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)	78 English Learner 1st graders receiving Spanish only or Spanish and English whole reading instruction	Reading Intervention	-30 minutes per day, 5 days a week for 60 days -Tier 2 instruction -Phonemic awareness content vocabulary and comprehension strategies	Primarily Spanish with some English incorporated	Reading outcomes—phonemic awareness, phonics, word work, sentence reading, vocabulary, comprehension, transition elements	Regardless of condition, reading performance from pretest to posttest increased
2	Burns et al. (2016)	201 2nd and 3rd grade students from three different schools	Reading Intervention	-4 times a week throughout school year -6 conditions -Explicit instruction of letter sound correspondence	English	Decoding and reading fluency	Students who scored in the lowest levels on measures of language proficiency showed the highest rate of gain in words per minute (fluency)
3	Calhoon, Otaiba, Cihak, King, & Avalos (2007)	76 1st graders, students enrolled in	Supplemental Peer-Mediated	-3 times a week for 30-35 minutes totaling	English	Reading fluency subskills-phoneme segmentation,	PALS was effective for phoneme segmentation,

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
		Two Way Bilingual Immersion Program	Reading Program	60 PALS - sessions -Structured and reciprocal practice on phonological awareness, phonics, fluency, and comprehension - Modeling -Practice -Shared story- book reading		fluency, nonsense word fluency, and oral reading fluency	fluency, nonsense word fluency, and oral reading fluency
4	Cassady, Smith, & Thomas (2018)	1,490 EL students in kindergarten and 1st grade participated	Computer Assisted Instruction- *IL Literacy* Package	-20 minutes a day, approximately 4 times a week for one academic year -Differentiated instruction -Primary language support -Frequent practice -Assessment -Direct instruction -Individualized instruction	English	*Foundations*-emergent literacy gains	Consistent gains in reading performance for 1st grade students, greatest gains occurred during the second half of the school year which is when more consistent and continued use of the program was incorporated;

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Reteaching -Focus on phonological awareness, phonics, fluency, text comprehension, and vocabulary			benefits in vocabulary varied based on language skills
5	Crevecoeur, Coyne, & McCoach (2014)	122 kindergarten students	Vocabulary Intervention	-36 sessions that lasted a ½ hour for 18 weeks -Instruction on 54 target words -Storybook reading and activities	English	Initial English receptive vocabulary knowledge impact on response to vocabulary intervention	Teaching vocabulary during storybook reading is effective
6	Farver, Lonigan, & Eppe (2009)	94 preschool students	Emergent Literacy Intervention	-Curriculum *High/Scope, Literacy Express* -Small-group	English and Spanish transitioning to English	Receptive vocabulary, definitional vocabulary, blending, elision, print knowledge	Significant enhancement of early literacy skills of Spanish-speaking children was noted through the small-group emergent literacy intervention English-only and Spanish-to-

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
							English both show positive outcomes in the areas of oral language, phonological awareness, and print knowledge
7	Flippini, Gerber, & Leafstedt (2012)	71 1st grade students	Vocabulary-Plus Intervention and Phonological Awareness Intervention	-15 minutes of supplementary instruction, 4 days a week for 8 weeks -Small-groups -Supplemental to class instruction -Fast-paced -Systematic -Fixed procedure for scaffolding with graduated prompts -Focus on vocabulary and phonological awareness	English	Reading outcomes	Supplementary intensive, explicit intervention in vocabulary, phonological awareness, and decoding impact all three of those areas; students who received the vocabulary-plus intervention performed better on vocabulary measures than those who did not; students who spent 30% of instructional time on

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
							phonological awareness and decoding skills showed gains in PA, reading, and comprehension comparable to those who spent 100% of instructional time on PAD skills
8	Gilbertson & Bluck (2006)	4 kindergarten students	Paced Letter Naming Intervention	-Varying number of sessions -24 learning trials per session -Wait time (1s and 5s) -Modeling -Independent practice -Consistent language -Visual prompts -Language producing opportunities -Corrective feedback	English	Rates of letter naming	Both paced interventions increased rate of letter naming; the 5s pace was more effective for 3 of the 4 students

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
9	Gilbertson, Maxfield, & Hughes (2007)	6 kindergarten students	See/Say Intervention and Hear/Point Intervention	-30 minutes of instruction, 4 days a week -Frequent trials -Contingent reward strategy -Modeling -Practice -Small-group	English	Letter Naming Fluency	Both interventions showed positive effects on letter naming fluency, but the See/Say Intervention was moderately more effective

Table 8, Continued

10	Goodrich, Lonigan, & Farver (2013)	94 students in a Head Start program	Experimental Intervention Study	-4 times a week for 20 minutes over 21 weeks -Small-group sessions -3 conditions - *High/Scope* -Active participatory learning -*Literacy Express (2)* -Focused on oral language, phonological awareness, and print knowledge -Small-group -Pull-out -Supplemental	English only and transitional-Spanish 1st 9 weeks then transitioned to English	Evaluate the cross language transfer of emergent literacy skills of preschoolers who were Spanish-speaking language minority children	Partial support that strength in one language would have a positive effect on second language when an intervention was applied (teaching environment might play a role in this as well as cognitive abilities); vocabulary knowledge is language specific

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Dialogic reading			
11	Gunn, Biglan, Smolkowski, & Ary (2000)	256 kindergarten-2nd grade students	Supplemental Reading Instruction	-*Reading Mastery and Corrective Reading* -Small-group & whole-group -Beneficial in teaching reading to all ability levels -Instruction in -Evidence-based -focus on components of beginning reading skills: phonological awareness, sound-letter correspondence, decoding and fluency, -Grouped according to instructional needs -Direct instruction	English	Phonological awareness and decoding skills	Students who received supplemental reading instruction improved in the areas of word attack, word identification, oral reading fluency, vocabulary, and reading comprehension

Table 8, Continued

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Immediate feedback -Skills taught until mastered -Modeling -Opportunities for practice			
12	Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)	12 students in kindergarten or 1st grade	Early Reading Intervention (ERI)	-2-4 days a week for 20 minutes ranging from 7-15 weeks -ERI -Focus on early literacy skills -Aligned with DIBELS, -Addresses the skill deficits of lowest-performing students -Teaches phonological and phonics skills -Explicit, direct, and systematic Instruction -Active student Responding -Brisk pace	English	Phonological and phonics skills of children	DIBELS scores improved for all students; improvements were immediate and dramatic for some students while for other progress was more gradual, but still resulted in significant gains

Table 8, Continued

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Immediate and direct error correction, -Continuous and intermediate schedule of reinforcement, Modeling -Opportunities for practice -Supplemental to class reading instruction			
13	Table 8, Continued Windmueller (2001)	156 1st grade students and 179 2nd grade students; 7 1st grade students with learning disabilities and 24 2nd graders with learning disabilities	Ongoing Supplemental Reading Instruction	-Small-groups -Focus on phonological awareness, alphabetic principles, and fluency with connected text -Direct instruction	English	Literacy outcomes	Steady improvements in literacy for all students
14	Healy, Vanderwood, & Edelston (2005)	15 students between ages 6 and 7	Tier-Two Reading Intervention	-2 times a week for 30 minutes, 12-25 sessions -*Sounds and Letters for*	English	Improvement of reading skills determined by assessment on phoneme segmentation	12 students reached the predetermined level on PSF and NWF tasks while the

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				Readers and Spellers -Small-groups -Phonological awareness -Token economy		fluency task and nonsense word fluency tasks	remaining 3 were referred for tier three intervention
15	Johnston, Mercer, & Geres-Smith (2018)	4 students in grades 3 and 5	Vocabulary Instruction + Individual Reading Fluency Interventions	-2 times week for 30 to 40 minutes for 15 sessions -Repeated readings -Modeling -Error correction -Focus on vocabulary, reading fluency, and comprehension	English	Reading comprehension	No consistent impacts and all changes were small, therefore, not statistically significant

Table 8, Continued

16	Jozwik & Douglas (2017a)	6 students in 5th grade	Academic Vocabulary Intervention	-Instruction during 25 minutes of the language arts block -Explicit vocabulary instruction -Modeling -Guided practice -Feedback	English	Students' expressive language and ability to read and define content-specific academic vocabulary	Expressive vocabulary instruction and self-regulation procedures led to gains in use of expressive language to define academic vocabulary words

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Independent practice -Self-regulation procedures -Self-goal setting -Self-recording -Self-evaluating -Cooperative learning structure			
17	Kamps et al. (2008)	83 students in 2nd grade	Experimental/ Comparison Study	-*Reading Mastery, Early Interventions in Reading, and Read Well* -Direct instruction -Modeling -Multiple activities -Repeated practice to teach and reinforce new skills -Structured and sequenced scripted lessons -Focus on	English	Early literacy skills	Students in schools 1-3 demonstrated higher gains on early literacy skills

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			phonemic awareness and phonics -Teaching to mastery -Small-group -Supplemental reading instruction *Read Naturally* was used to build fluency in 2nd grade -Teacher facilitates student-led mastery on text fluency and comprehension -Balanced literacy instruction -Focus on word study -Group and individual story reading -Writing Activities -Small-groups -Supplemental			

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				reading instruction			
18	Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)	26 2nd grade students	Supplemental Reading	-58 sessions that lasted 30-35 minutes over 13 weeks -Focus on fluent reading, phonological awareness, instructional-level reading, word study, and writing	English	Literacy outcomes	Gains in all areas except for decrease in segmentation fluency scores from follow-up 1 to follow-up 2 (4 months)
19	Lovett et al. (2008)	166 students ranging from 2nd-8th grades	Phonologically Based Remediation Intervention	-1 hour of intervention daily, 4 to 5 days per week for a total of 105 hours of instruction -Small-groups -*Reading Mastery I/II Fast Cycle* or *Corrective Reading* materials -Phonologically based word attack and word	English	Reading outcomes and rate of growth	Students who participated in the intervention outperformed peers and demonstrated greater rates of growth over time in reading and reading-related skills compared to students who received an equivalent amount of special

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				identification -Remediation of basic reading skills -Application of new decoding skills -Explicit instruction			education reading remediation
20	Lugo-Neris, Jackson, & Goldstein (2010)	22 students ranging in age from 4-6 years	Shared storybook reading intervention with explicit vocabulary instruction	-15-20 minutes a day, 3 days a week for 4 weeks -Shared storybook reading sessions in English - explicit vocabulary instruction -Readings were repeated 3 days a week -Same book used all week -Same target vocabulary during week -Repetition	Stories read in English; English word expansions (2 weeks); Spanish word expansions (2 weeks); some code-switching between English and Spanish occurred throughout	Expressive and receptive vocabulary	Word learning knowledge can transfer from L1 to L2; stronger proficiency in one language led to greater response to intervention

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
21	Malloy, Gilbertson, & Maxfield (2007)	2 1st grade students, 1 3rd grade student, 1 4th grade student, and 1 5th grade student	Brief Experimental Analysis (BEA)	-4 times a week, twice a day for 5-12 minutes -One-on-one instruction -Praise provided for effort *BEA* -Functionally match instruction and task demand to student skill	English	Oral reading fluency	One instructional strategy improved reading rates for each student; interventions with varying degrees of support were effective with students
22	McMaster, Kung, Han, & Cao (2008)	20 kindergarten students	Peer-Assisted Learning Strategies	-4 times per week for 18 weeks -*PALS* -Supplemental peer-tutoring program -Higher performing readers paired with lower performing readers to -Practice phonemic awareness, phonics, and fluency	English	Early reading skill acquisition	Students in PALS performed better than the control group in the areas of phonemic-awareness and letter-sound recognition

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				-Explicit instruction -Interactive Teaching -High levels of student engagement -Frequent opportunities for accurate responses, -Peer-mediated learning			
23	Miller, Mackiewicz, & Correa (2017)	3 students in 3rd grade	Mis LIBROS Intervention	-2 sessions a week for 30 minutes lasting anywhere from 8-14 weeks -*Mis LIBROS* Intervention -One-on-one -Prompting of characters, setting, and action if missed -Assistance with spelling, punctuation, and word retrieval	Spanish and English	Discourse length (total number of words) and lexical diversity (number of different words)	2 of the 3 participants made significant gains in discourse length and lexical diversity during a story generation activity

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
24	Saenz, Fuchs, & Fuchs (2007)	132 students in grades 3-6 some typically developing and some with learning disabilities	*Peer-Assisted Learning Strategies* Intervention	-3 times a week for 35 minutes during regularly scheduled reading for 15 weeks -Grouped by mixed abilities to allow for tutor and tutee -Partner reading -Retell -Paragraph shrinking -Prediction relay -Focus on phonological awareness, letter-sound correspondence, and sight word recognition	English	Increase strategic reading behavior, reading fluency, and comprehension	Regardless of disability or not, students in PALS group outperformed students who did not participate in PALS
25	Schoenbrodt, Kerins, & Gesell (2010)	12 students ranging in age from 6-11	Narrative Intervention Program	-8 week intervention -Story retell task and a story generation task -Use of visual organizers	English	Communicative Competence-Number of words, story grammar, and narrative style	Following intervention students demonstrated increased communicative competence

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
	Table 8, Continued			-Tangible story grammar marker			
26	Simon-Cerijido & Gutierrez-Clellen (2013)	107 preschool students; 55 typically developing ELs and 52 Els with a language impairment	*VOLAR Programme*	-45 minute lessons, 4 days a week for 9 weeks -Focus on vocabulary and oral language -Shared-book reading in whole group -Small-group -Learning centers -Opportunities to practice new skills and oral language	English	Language outcomes	Regardless of disability students in *VOLAR Programme* outperformed peers that were in control group
27	Tam, Heward, & Heng (2006)	5 students ranging in age from 9-11	Intervention program	-73-81 session depending on student and each lasted about 35 minutes -Vocabulary instruction -Error correction -Fluency building -One-on-one	English	Oral reading rate and comprehension	Improved oral reading rates and reading comprehension for all 5 students

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
28	Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)	534 students with a mean age of 67.13 months	Oral English Intervention	-Intensive instruction -Small-group instruction	English	Oral English	Students receiving intervention developed at a faster rate than students receiving regular instruction
29	Vaughn et al. (2006)	64 1st grade students	Explicit, systematic reading intervention	-50 minutes a day, 5 days a week -Small-groups -Fast paced -Several opportunities for responding -Ongoing interchange between instructor and students -7-10 activities -Modeling new content -Guided practice -Independent practice -Positive recognition for correct responses	Spanish	Letter-sound identification, Phonological Awareness Composite, Woodcock Language Proficiency Battery-Revised Oral Language, Word Attack, Passage Comprehension, and two measures of reading fluency	Students in intervention group made significant gains over time in the areas of phonemic awareness, word attack, fluency, passage comprehension, and oral language skills

Table continues

	Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
				and feedback if an error occurred -Explicit instruction in the areas of letter-sound knowledge, phonemic awareness, speeded syllable reading, word recognition, fluency, and comprehension strategies			
30	Zoski & Erickson (2017)	17 kindergarten students	Multicomponent Linguistic Awareness Intervention	4 times a week for 30 minutes totaling 6 weeks -Small-group -Intervention in one of the following: phonological awareness and letter knowledge, morphological awareness or a three-pronged intervention that addressed all three areas	English	Early literacy skills	Students demonstrated moderate to large gains in word reading, phonological awareness, morphological awareness, and morphological spelling

Table 9

Results on Literacy Development Strategies for d/DHH

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
Beal-Alvarez, Lederberg, & Easterbrooks (2011)	4 preschool students	*Foundations* paired with Visual Phonics	-10 weeks for 30 minutes a day -*Foundations* -Explicit instruction -Visuals -Multiple opportunities to practice -Engagement -Focus on phonological skills, vocabulary, language, fluency, and shared reading	Sign language, voice and visual support depending on needs of student	Grapheme-phoneme correspondences	All students benefitted from the explicit instruction as long as communication needs were considered
Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)	5 children in a signing program and 5 children in an oral program	Semantic Association Strategy Intervention using *Foundations*	-8 or 9 weeks, 4 days a week for 35 minutes -Pull-out -*Foundations* -Visuals -Focus on vocabulary and comprehension of stories	Sign language in one intervention and oral language in the other intervention	Phoneme-grapheme correspondence	All children acquired the phoneme-grapheme correspondences that were taught

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Story retell -Multiple opportunities to produce the phoneme -Explicit instruction			
Lederberg, Miller, Easterbooks, & Connor (2014)	25 children ranging in age from 3-11 years	*Foundations*	-Intervention started 4-6 weeks after school began and lasted 1-2 weeks before end of year, 4 days a week for 1 hour *-Foundations* -Explicit vocabulary instruction -Focus on phonological awareness, alphabetic knowledge syllable segmentation, initial phoneme isolation, and rhyming -Small-groups	One group auditory/oral and one group used sign language	TOPEL-Phonological Awareness, WJ Letter-Word Identification, Expressive One Word Vocabulary, WJ Vocabulary, Peabody Picture Vocabulary	Phonological awareness and alphabetic knowledge along with meaning-based (vocabulary) skills contribute to future reading success

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
Miller, Lederberg, & Easterbrooks (2013)	5 students ranging in age from 3 years, 8 months to 5 years, 1 month	*Foundations*	-Pull-out -25 weeks long, 4 days a week for 1 hour -*Foundations* -Small-group -Unit-based -Explicit instruction -Story-book reading -Focus on phonemic awareness and vocabulary -Engaging activities -Repeated Practice -Visuals mnemonics, pictures, gestures -Evidence-based practices -Discussions -Multiple opportunities to produce and comprehend	Auditory/Oral	Phonological Awareness Skills—syllable segmentation, rhyme, and initial phoneme	Instructional method utilized in Foundations is highly effective for teaching initial sound isolation

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			the words in meaningful contexts -Differentiated instruction to children's language level			
Trezek & Malmgren (2005)	23 middle school students in a self-contained classroom	Phonics Treatment Package	-45 minutes of reading instruction over 8 weeks -*Corrective Reading Decoding A* Program -Individualized instruction -Implementation of computer -Skills introduced in isolation, practiced over time, and incorporated in meaningful, decodable, connected text -Focus on pronunciation, sound	Total Communication	Learn and generalize phonics skills	Students who received the phonics treatment package outperformed students who did not receive phonics instruction

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			introduction, and word reading -Students respond in unison to maximize opportunities -Input -Visuals -Speechreading -Articulatory feedback -Direct Instruction -*Visual Phonics* -Visuals -Speechreading -Articulatory feedback -Incorporated with sign			
Trezek & Wang (2006)	13 kindergarten and 1st grade students	Phonics-Based Reading Curriculum supplemented with *Visual Phonics*	-48 lessons over an 8 month period -*Reading Mastery I Curriculum* -Direct instruction -Focuses on	Sign Language	Beginning reading skills	Regardless of degree of hearing loss, students showed gains following a phonics-based reading curriculum with the

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			phonemic awareness, phonics, fluency, vocabulary, and comprehension -Clear instructional presentations -Sequenced -Specific skills are taught -Systematic, explicit curriculum -Consistency -Small-group -Fast-paced -Achievement-based grouping -Frequent responding -Careful monitoring of progress -*Visual Phonics* -Visuals -Speechreading -Articulatory feedback			incorporation of *Visual Phonics*

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Incorporated with sign			
Trezek, Wang, Woods, Gampp, & Paul (2007)	20 students in kindergarten and 1st grade	Visual Phonics Intervention in addition to *Literacy Across the Curriculum for an Equitable Society (LACES)*	-90 minutes of daily instruction for a year *-LACES* -Explicit Instruction -Focus on phonemic awareness, phonics, and vocabulary -Read aloud -Vocabulary -Reading and Enrichment -Reteaching -Read-aloud -Modeling -Direct instruction	Total Communication	Beginning reading skills	Kindergarten and 1st grade can demonstrate improvements in beginning readings skills as measured by standardized assessments following 1 year of instruction
Wang, Spychala, Harris, & Oetting (2013)	3 preschool students	Phonics-Based Early Intervention Package supplemented by *Visual Phonics*	-40 week intervention *-Reading Mastery I Curriculum* -Individual and group implementation	Total Communication	Phonemic Awareness and Phonics	All students exhibited some use of phonemic awareness and phonics skills following intervention

Table continues

Author(s)	Participants	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Direct instruction -Systematic, explicit phonics curriculum -Scripted teacher manuals -Clear, concise, and effective delivery of information -Consistency -Smartboard -Technology -*Visual Phonics* -Visuals -Speechreading -Articulatory feedback -Incorporated with sign			

Table 10

Results on Literacy Development Strategies for ELs with Disabilities

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
Echavarria (1996)	5 students ranging in age from 7-9 years with learning disabilities	Compared basal approach to instructional conversation approach	-5 lessons -Discussions	Not stated	Language and concept development	Higher levels of academic discourse and greater participation with instructional conversations than with a basal approach—greater understanding of concept following instructional conversations but no differences in literal comprehension or post-lesson narrative results
Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)	188 4 year-old students; 51 of the students had IEPs for SLI	Academic Enrichment Program	-4 days a week for 45 minutes for 12 weeks -Small-groups -Hands-on (picture sorting, manipulatives, storytelling)	Spanish and English or English only	Language of intervention, child's development in Spanish, effects of English vocabulary, use,	Growth over time on English outcomes

Table continues

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Simple language -Slow speech, rate, stress, and intonation -Repetition -Restating -Visuals (paralinguistic cues) -Encourage and enthusiastic		proficiency, and exposure	
Haager & Windmueller (2001)	156 1st grade students and 179 2nd grade students; 7 1st grade students with learning disabilities and 24 2nd graders with learning disabilities	Ongoing Supplemental Reading Instruction	-Small-groups -Focus on phonological awareness, alphabetic principles, and fluency with connected text -Direct instruction	English	Literacy outcomes	Steady improvements in literacy for all students
Jozwik & Douglas (2017a)	6 students in 5th grade; 2 students qualified as having a Specific Learning Disability	Academic Vocabulary Intervention	-Instruction during 25 minutes of the language arts block -Explicit vocabulary instruction -Modeling -Guided practice -Feedback	English	Students' expressive language and ability to read and define content-specific academic vocabulary	Expressive vocabulary instruction and self-regulation procedures led to gains in use of expressive language to define academic vocabulary words

Table continues

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Independent practice -Self-regulation procedures -Self-goal setting -Self-recording -Self-evaluating -Cooperative learning structure			
Jozwik & Douglas (2017b)	Four, 4th grade students with learning disabilities	Reading Comprehension Intervention	-5 times a week for 30 minutes over a 6 month period -Technology -Explicit instruction -Grouping by mixed abilities -Small-groups	English	Asking questions, making connections, and coding the text to monitor for meaning	Participants applied comprehension strategies and improved their percentage accuracy with answer comprehension questions after being introduced to explicit strategy instruction, a mnemonic to facilitate strategy application, web-based tools, and peer collaboration to construct

Table continues

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
						meaning from text
Restrepo, Morgan, & Thompson (2013)	202 preschool students with language impairments ranging in age from 43-68 months	Vocabulary Intervention	-12 week -Small group -Dialogic reading -Hands-on	Spanish & English	Receptive and expressive vocabulary gains	Bilingual vocabulary intervention facilitated receptive and expressive Spanish and conceptual vocabulary intervention, mathematics intervention, and no-intervention groups
Saenz, Fuchs, & Fuchs (2007)	132 students in grades 3-6 some typically developing and some with learning disabilities	*Peer-Assisted Learning Strategies* Intervention	-3 times a week for 35 minutes during regularly scheduled reading for 15 weeks -Grouped by mixed abilities to allow for tutor and tutee -Partner reading -Retell -Paragraph shrinking -Prediction relay	English	Increase strategic reading behavior, reading fluency, and comprehension	Regardless of disability or not, students in PALS group outperformed students who did not participate in PALS

Table continues

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Focus on phonological awareness, letter-sound correspondence, and sight word recognition			
Simon-Cerijido & Gutierrez-Clellen (2013)	107 preschool students; 55 typically developing ELs and 52 Els with a language impairment	*VOLAR Programme*	-45 minute lessons, 4 days a week for 9 weeks -Focus on vocabulary and oral language -Shared-book reading in whole group -Small-group -Learning centers -Opportunities to practice new skills and oral language	English	Language outcomes	Regardless of disability students in *VOLAR Programme* outperformed peers that were in control group
Tam, Heward, & Heng (2006)	5 students ranging in age from 9-11with learning disabilities	Intervention Program	-73-81 sessions depending on student and each lasted about 35 minutes -Vocabulary instruction -Error correction	English	Oral reading rate and comprehension	Improved oral reading rates and reading comprehension for all 5 students

Table continues

Author(s)	Participant(s)	Independent Variable(s)	Characteristics of Intervention	Language of Intervention	Dependent Variable(s)	Findings
			-Fluency building -One-on-one			

EL results. Following creation of Table 8, characteristics of interventions were coded, and categories were created. Table 11 yields the information about each article and whether it entailed components that were coded into the broad categories. Each broad category was further analyzed which is reflected in the following six tables (Tables 12-17).

Frequency and intensity. Frequency and intensity of interventions was categorized by days, time, and weeks. Days were broken up in terms of occurrence less than 50% of the week (≤2 days a week) or over 50% of the week (≥3 days a week). Time was categorized as being less than 30 minutes (≤29 minutes) or thirty minutes or greater (≥30 minutes). Days were categorized in terms of weeks. Interventions were categorized as being less than 10 weeks in duration or 10 weeks and greater in duration. Of the 30 interventions analyzed in the Table 12, five of the interventions were two days or less a week and 19 were three or more days a week. Six of the interventions were less than 30 minutes in duration while 13 were 30 minutes or longer in duration. Six interventions were less than 10 weeks long and thirteen were 10 weeks or greater in length.

Grouping strategies. Table 13 yields information regarding grouping strategies during the interventions. The interventions for the EL population discussed grouping in terms of small-group, one-on-one, and by mixed abilities. Of the 30 articles analyzed, 18 interventions were conducted using small-groups, three were conducted using one-on-one instruction, and five discussed grouping by abilities.

Skills. Skills addressed within the interventions are displayed in Table 14. All of the areas of the Big 5 in reading were addressed which include phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Reading Panel, 2017). Additionally, phonological

awareness, writing, and language were mentioned in regards to skills. Of the 30 articles, 14 discussed phonological awareness, seven discussed phonemic awareness, 13 discussed phonics, 10 discussed fluency, nine discussed vocabulary, five discussed comprehension, two focused on writing, and four focused on language.

Strategies. Twenty-four strategies were derived after reviewing the intervention characteristics of the 30 articles. The strategies mentioned among the articles were (1) assessment, (2) corrective feedback, (3) Dialogic Reading, (4) engagement, (5) evidence-based practices, (6) explicit instruction, (7) fast-paced, (8) intensive instruction, (9) learning centers, (10) modeling, (11) multiple opportunities to practice/respond, (12) PALS/CLS, (13) prompts, (14) reinforcement, (15) repetition, (16) reteaching, (17) scaffolding, (18) self-monitoring, (19) shared reading, (20) story retell, (21) systematic instruction, (22) tangibles, (23) visuals, and (24) wait time. Frequency of each of these strategies are delineated in Table 15.

Curricula. A variety of curricula were also noted in the articles. Curricula utilized in the EL interventions included *High/Scope, Literacy Express, Corrective Reading, Sounds and Letters for Readers and Spellers, Reading Mastery I/II Fast Cycle, Early Interventions in Reading, Read Well, and Read Naturally*. Frequency of use for each curriculum is noted in Table 16.

Language. Lastly, a table was created to exhibit the language utilized throughout the intervention. Language utilized with the EL population included English, Spanish, or a combination of the two. Language used in interventions is displayed in Table 17.

Table 11

Broad Categories Derived From EL Intervention Characteristics

#	Author(s)	Intensity & Frequency	Grouping Strategies	Skills	Strategies	Curriculum	Intervention in Spanish*	Intervention in English*
1	Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)	X	X	X			X	
2	Burns et al. (2016)	X		X	X			X
3	Calhoon, Otaiba, Cihak, King, & Avalos (2007)	X	X	X	X			X
4	Cassady, Smith, & Thomas (2018)	X	X	X	X			X
5	Crevecoeur, Coyne, & McCoach (2014)	X		X				X
6	Farver, Lonigan, & Eppe (2009)		X	X		X	X	
7	Flippini, Gerber, & Leafstedt (2012)	X	X	X	X			X

Table continues

#	Author(s)	Intensity & Frequency	Grouping Strategies	Skills	Strategies	Curriculum	Intervention in Spanish*	Intervention in English*
8	Gilbertson & Bluck (2006)			X				X
9	Gilbertson, Maxfield, & Hughes (2007)	X	X	X	X			X
10	Goodrich, Lonigan, & Farver (2013)	X	X	X	X	X	X	X
11	Gunn, Biglan, Smolkowski, & Ary (2000)		X	X	X	X		X
12	Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)	X		X	X			X
13	Haager & Windmueller (2001)		X	X	X			X
14	Healy, Vanderwood, & Edelston (2005)	X	X	X	X	X		
15	Johnston, Mercer, & Geres-Smith (2018)	X		X	X			X

Table continues

#	Author(s)	Intensity & Frequency	Grouping Strategies	Skills	Strategies	Curriculum	Intervention in Spanish*	Intervention in English*
16	Jozwik & Douglas (2017a)		X	X	X			X
17	Kampset al. (2008)		X	X	X	X		X
18	Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)	X		X				X
19	Lovett et al. (2008)	X	X	X	X	X		X
20	Lugo-Neris, Jackson, & Goldstein (2010)	X		X	X		X	
21	Malloy, Gilbertson, & Maxfield (2007)	X	X		X			X
22	McMaster, Kung, Han, & Cao (2008)	X	X	X	X			X
23	Miller, Mackiewicz, & Correa (2017)		X	X	X		X	

Table continues

#	Author(s)	Intensity & Frequency	Grouping Strategies	Skills	Strategies	Curriculum	Intervention in Spanish*	Intervention in English*
24	Saenz, Fuchs, & Fuchs (2007)	X	X	X	X			X
25	Schoenbrodt, Kerins, & Gesell (2010)			X	X			X
26	Simon-Cerijido & Gutierrez-Clellen (2013)	X	X	X	X			X
27	Tam, Heward, & Heng (2006)	X	X	X	X			X
28	Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)		X	X	X			X
29	Vaughn et al. (2006)	X	X	X	X		X	
30	Zoski & Erickson (2017)	X	X					X

**Note.* Intervention presented in Spanish and English was noted if any component of the intervention was delivered in the language.

Table 12

Frequency and Intensity of EL Interventions

#	Author(s)	≤2 days a week	≥3 days a week	≤29 minutes	≥30 minutes	≤10 weeks	≥10 weeks
1	Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)		X		X		X
2	Burns et al. (2016)		X				
3	Calhoon, Otaiba, Cihak, King, & Avalos (2007)		X		X		X
4	Cassady, Smith, & Thomas (2018)		X	X			X
5	Crevecoeur, Coyne, & McCoach (2014)	X			X		X
6	Farver, Lonigan, & Eppe (2009)						
7	Flippini, Gerber, & Leafstedt (2012)		X	X		X	
8	Gilbertson & Bluck (2006)						
9	Gilbertson, Maxfield, & Hughes (2007)		X		X		
10	Goodrich, Lonigan, & Farver (2013)		X	X			X
11	Gunn, Biglan, Smolkowski, & Ary (2000)						

Table continues

#	Author(s)	≤2 days a week	≥3 days a week	≤29 minutes	≥30 minutes	≤10 weeks	≥10 weeks
12	Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)	X	X	X			X
13	Haager & Windmueller (2001)						
14	Healy, Vanderwood, & Edelston (2005)	X			X		X
15	Johnston, Mercer, & Geres-Smith (2018)	X	X				X
16	Jozwik & Douglas (2017a)		X				
17	Kamps et al. (2008)						
18	Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)		X		X		X
19	Lovett et al. (2008)		X		X		X
20	Lugo-Neris, Jackson, & Goldstein (2010)		X	X		X	
21	Malloy, Gilbertson, & Maxfield (2007)		X	X			
22	McMaster, Kung, Han, & Cao (2008)		X				X
23	Miller, Mackiewicz,	X			X	X	X

Table continues

#	Author(s)	≤2 days a week	≥3 days a week	≤29 minutes	≥30 minutes	≤10 weeks	≥10 weeks
	& Correa (2017)						
24	Saenz, Fuchs, & Fuchs (2007)		X		X		X
25	Schoenbrodt, Kerins, & Gesell (2010)					X	
26	Simon-Cerijido & Gutierrez-Clellen (2013)		X		X	X	
27	Tam, Heward, & Heng (2006)				X		
28	Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)						
29	Vaughn et al. (2006)		X		X		
30	Zoski & Erickson (2017)		X		X	X	

Table 13

Grouping Strategies of EL Interventions

#	Author(s)	Small-Group	One-on-One	Mixed Abilities
1	Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)	X		
2	Burns et al. (2016)			
3	Calhoon, Otaiba, Cihak, King, & Avalos (2007)	X		X
4	Cassady, Smith, & Thomas (2018)		X	
5	Crevecoeur, Coyne, & McCoach (2014)			
6	Farver, Lonigan, & Eppe (2009)	X		
7	Flippini, Gerber, & Leafstedt (2012)	X		
8	Gilbertson & Bluck (2006)			
9	Gilbertson, Maxfield, & Hughes (2007)	X		
10	Goodrich, Lonigan, & Farver (2013)	X		
11	Gunn, Biglan, Smolkowski, & Ary (2000)	X		X
12	Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)			
13	Haager & Windmueller (2001)	X		
14	Healy, Vanderwood, & Edelston (2005)	X		
15	Johnston, Mercer, & Geres-Smith (2018)			
16	Jozwik & Douglas (2017a)	X		X
17	Kamps et al. (2008)	X		
18	Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)			

Table continues

#	Author(s)	Small-Group	One-on-One	Mixed Abilities
19	Lovett et al. (2008)	X		
20	Lugo-Neris, Jackson, & Goldstein (2010)			
21	Malloy, Gilbertson, & Maxfield (2007)		X	
22	McMaster, Kung, Han, & Cao (2008)	X		X
23	Miller, Mackiewicz, & Correa (2017)		X	
24	Saenz, Fuchs, & Fuchs (2007)	X		X
25	Schoenbrodt, Kerins, & Gesell (2010)			
26	Simon-Cerijido & Gutierrez-Clellen (2013)	X		
27	Tam, Heward, & Heng (2006)			
28	Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)	X		
29	Vaughn et al. (2006)	X		
30	Zoski & Erickson (2017)	X		

Table 14

Skills Addressed in EL Interventions

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Writing	Language
1	Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)		X			X	X		
2	Burns et al. (2016)			X					
3	Calhoon, Otaiba, Cihak, King, & Avalos (2007)	X		X	X		X		
4	Cassady, Smith, & Thomas (2018)	X		X	X	X	X		
5	Crevecoeur, Coyne, & McCoach (2014)					X			
6	Farver, Lonigan, & Eppe (2009)	X		X					
7	Flippini, Gerber, & Leafstedt (2012)	X				X			

Table continues

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Writing	Language
8	Gilbertson & Bluck (2006)		X						
9	Gilbertson, Maxfield, & Hughes (2007)		X						
10	Goodrich, Lonigan, & Farver (2013)	X		X					X
11	Gunn, Biglan, Smolkowski, & Ary (2000)	X		X	X				
12	Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)	X		X					
13	Haager & Windmueller (2001)	X		X	X				
14	Healy, Vanderwood, & Edelston (2005)	X							
15	Johnston, Mercer, & Geres-Smith (2018)				X		X		
16	Jozwik & Douglas (2017a)					X			

Table continues

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Writing	Language
17	Kamps et al. (2008)		X	X	X		X	X	
18	Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)	X			X	X		X	
19	Lovett et al. (2008)	X		X					
20	Lugo-Neris, Jackson, & Goldstein (2010)					X			
21	Malloy, Gilbertson, & Maxfield (2007)								
22	McMaster, Kung, Han, & Cao (2008)		X	X	X				
23	Miller, Mackiewicz, & Correa (2017)		X						
24	Saenz, Fuchs, & Fuchs (2007)	X		X					

Table continues

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Writing	Language
25	Schoenbrodt, Kerins, & Gesell (2010)								X
26	Simon-Cerijido & Gutierrez-Clellen (2013)					X			X
27	Tam, Heward, & Heng (2006)				X	X			
28	Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)								X
29	Vaughn et al. (2006)	X		X		X		X	
30	Zoski & Erickson (2017)	X			X				X

Table 15

Strategies Utilized in EL Interventions

Strategies	Article Number
Assessment	4, 12
Corrective Feedback	8, 11, 12, 15, 16, 27, 29
Dialogic Reading	10
Engagement	10, 12, 22, 29
Evidence-Based	11
Explicit Instruction	1, 2, 4, 7, 11, 12, 13, 16, 17, 19, 20, 22, 28, 29
Fast-paced	7, 29
Intensive instruction	1, 2, 4, 7, 11, 12, 13, 16, 17, 19, 20, 22, 28, 29
Learning Centers	26
Modeling	3, 8, 9, 11, 12, 15, 16, 17
Multiple Opportunities to Practice/Respond	3, 4, 8, 9, 11, 12, 17, 22, 26, 29
PALS/CLS	3, 16, 22
Prompts	7, 22
Reinforcement	9, 12, 14, 29
Repetition	15, 17, 20
Reteaching	4, 11, 17
Scaffolding	7
Self-Monitoring	16
Shared Reading	3, 5, 17, 20, 24, 26
Story Retell	25
Systematic instruction	1, 2, 4, 7, 11, 12, 13, 16, 17, 19, 20, 22, 28, 29
Tangibles	25
Visuals	8, 25
Wait Time	8

Table 16

Curricula Utilized in EL Interventions

Author(s)	High/Scope	Literacy Express	Corrective Reading	Sounds and Letters for Readers and Spellers	Reading Mastery I/II Fast Cycle	Early Interventions in Reading	Read Well	Read Naturally
Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)								
Burns et al. (2016)								
Calhoon, Otaiba, Cihak, King, & Avalos (2007)								
Cassady, Smith, & Thomas (2018)								
Crevecoeur, Coyne, & McCoach (2014)								
Farver, Lonigan, & Eppe (2009)	X	X						
Flippini, Gerber, & Leafstedt (2012)								
Gilbertson & Bluck (2006)								

Table continues

Author(s)	High/Scope	Literacy Express	Corrective Reading	Sounds and Letters for Readers and Spellers	Reading Mastery I/II Fast Cycle	Early Interventions in Reading	Read Well	Read Naturally
Gilbertson, Maxfield, & Hughes (2007)								
Goodrich, Lonigan, & Farver (2013)	X	X						
Gunn, Biglan, Smolkowski, & Ary (2000)			X		X			
Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)								
Haager & Windmueller (2001)								
Healy, Vanderwood, & Edelston (2005)				X				
Johnston, Mercer, & Geres-Smith (2018)								
Jozwik & Douglas (2017a)								
Kamps et al. (2008)					X	X	X	X

Table continues

Author(s)	High/Scope	Literacy Express	Corrective Reading	Sounds and Letters for Readers and Spellers	Reading Mastery I/II Fast Cycle	Early Interventions in Reading	Read Well	Read Naturally
Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)								
Lovett et al. (2008)			X		X			
Lugo-Neris, Jackson, & Goldstein (2010)								
Malloy, Gilbertson, & Maxfield (2007)								
McMaster, Kung, Han, & Cao (2008)								
Miller, Mackiewicz, & Correa (2017)								
Saenz, Fuchs, & Fuchs (2007)								
Schoenbrodt, Kerins, & Gesell (2010)								
Simon-Cerijido & Gutierrez-Clellen (2013)								

Table continues

Author(s)	High/Scope	Literacy Express	Corrective Reading	Sounds and Letters for Readers and Spellers	Reading Mastery I/II Fast Cycle	Early Interventions in Reading	Read Well	Read Naturally
Tam, Heward, & Heng (2006) Tong, Lara-Alecio, Irby, Mathes, Kwok (2008) Vaughn et al. (2006) Zoski & Erickson (2017)								

Table 17

Language Utilized in EL Interventions

Author(s)	Spanish	English	Spanish & English
Baker, Burns, Kame'enui, Smolkowski, & Baker (2015)			X
Burns et al. (2016)		X	
Calhoon, Otaiba, Cihak, King, & Avalos (2007)		X	
Cassady, Smith, & Thomas (2018)		X	
Crevecoeur, Coyne, & McCoach (2014)		X	
Farver, Lonigan, & Eppe (2009)			X
Flippini, Gerber, & Leafstedt (2012)		X	
Gilbertson & Bluck (2006)		X	
Gilbertson, Maxfield, & Hughes (2007)		X	
Goodrich, Lonigan, & Farver (2013)		X	X
Gunn, Biglan, Smolkowski, & Ary (2000)		X	
Gyovai, Cartledge, Koureau, Yurick, & Gibson (2009)		X	
Haager & Windmueller (2001)		X	
Healy, Vanderwood, & Edelston (2005)		X	
Johnston, Mercer, & Geres-Smith (2018)		X	
Jozwik & Douglas (2017a)		X	
Kamps et al. (2008)		X	

Table continues

Author(s)	Spanish	English	Spanish & English
Linan-Thompson, Vaughn, Hickman-Davis, & Kouzekanani (2003)		X	
Lovett et al. (2008)		X	
Lugo-Neris, Jackson, & Goldstein (2010)			X
Malloy, Gilbertson, & Maxfield (2007)		X	
McMaster, Kung, Han, & Cao (2008)		X	
Miller, Mackiewicz, & Correa (2017)			X
Saenz, Fuchs, & Fuchs (2007)		X	
Schoenbrodt, Kerins, & Gesell (2010)		X	
Simon-Cerijido & Gutierrez-Clellen (2013)		X	
Tam, Heward, & Heng (2006)		X	
Tong, Lara-Alecio, Irby, Mathes, Kwok (2008)		X	
Vaughn et al. (2006)	X		
Zoski & Erickson (2017)		X	

d/DHH results. Following creation of Table 9, characteristics of interventions were coded in order to create categories. Categories derived for the d/DHH interventions are displayed in Table 18. From there, each large category was further categorized which is reflected in Tables 19 to 25.

Frequency and intensity. Frequency and intensity of interventions for d/DHH interventions were coded based on days, minutes, and duration for the d/DHH population. Of the eight articles reviewed, one occurred two or fewer days a week while five occurred three or more days a week. When minutes were reported, there were no articles with less than 30 minutes reported and six where 30 minutes or longer were noted. Two interventions were less than 10 weeks and six were 10 weeks or longer. The above information can be referenced in Table 19.

Grouping. Grouping strategies for the d/DHH population appeared as small-group, one-on-one, and mixed abilities. Of the eight articles reviewed, four conducted the interventions in small-groups, two utilized one-on-one instruction, and one grouped students with mixed abilities. Table 20 displays the different grouping strategies for each article.

Skills. Table 21 portrays the skills that were discussed as part of the d/DHH interventions. Phonemic awareness, phonics, fluency, vocabulary, and comprehension were all discussed which are part of the Big 5 in Reading (National Reading Panel, 2017). In addition to the Big 5, phonological awareness and language were discussed. Of the eight articles reviewed, two focused on phonological awareness, six on phonemic awareness, five on phonics, one on fluency, six on vocabulary, four on comprehension, and one on language.

Strategies. Of the eight articles analyzed, 18 strategies were derived. The strategies gathered were (1) articulatory feedback, (2) assessment/progress monitoring, (3) consistency, (4) discussion, (5) engagement, (6) evidence-based practices, (7) explicit instruction, (8) fast-paced,

(9) modeling, (10) multiple opportunities to respond and practice, (11) repetition, (12) rephrasing/restating, (13) shared reading/read aloud, (14) speechreading, (15) story retell, (16) systematic instruction, (17) technology, and (18) visuals. Frequency of each of these strategies is illustrated in Table 22.

Curricula. Of the eight articles reviewed, seven curricula appeared. Curricula utilized in the d/DHH interventions included *Foundations, Visual Phonics, LACES, Reading Mastery I, Corrective Reading Decoding A, Visual Phonics*, and *Unit-Based*. Curricular use is noted in Table 23.

Language. Of the articles reviewed, language was considered. For the d/DHH population, language was either auditory/oral or some form of signed language with or without the support of spoken language. Frequency of use of each communication modality is displayed in Table 24.

Environment. A few of the d/DHH articles mentioned a specific type of environment for instruction such as pull-out. Several of the articles did not address the environment. Of the eight articles reviewed, two mentioned pull-out instruction while the others did not specify. Reference Table 25 for specific article information.

Table 18

Broad Categories Derived From d/DHH Interventions

#	Author(s)	Frequency and Intensity	Grouping Strategies	Skills	Strategies	Curriculum	Sign Language	Auditory/Oral	Total Communication	Environment
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)	X		X	X	X			X	
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)	X		X	X	X	X	X		X
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X	X	X	X	X	X	X		X
4	Miller, Lederberg, & Easterbrooks (2013)	X	X	X	X	X		X		
5	Trezek & Malmgren (2005)	X	X	X	X	X			X	
6	Trezek & Wang (2006)	X	X	X	X	X	X			

Table continues

#	Author(s)	Frequency and Intensity	Grouping Strategies	Skills	Strategies	Curriculum	Sign Language	Auditory/Oral	Total Communication	Environment
7	Trezek, Wang, Woods, Gampp, & Paul (2007)	X	X	X	X	X			X	
8	Wang, Spychala, Harris, & Oetting (2013)	X	X	X	X	X			X	

Table 19

Frequency and Intensity of d/DHH Interventions

#	Author(s)	≤2 days a weeks	≥3 days a week	≤29 minutes	≥30 minutes	<10 weeks	≥10 weeks
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)		X		X		X
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)		X		X	X	
3	Lederberg, Miller, Easterbooks, & Connor (2014)		X		X		X
4	Miller, Lederberg, & Easterbrooks (2013)		X		X		X
5	Trezek & Malmgren (2005)				X	X	
6	Trezek & Wang (2006)	X					X
7	Trezek, Wang, Woods,		X		X		X

Table continues

#	Author(s)	≤2 days a weeks	≥3 days a week	≤29 minutes	≥30 minutes	<10 weeks	≥10 weeks
	Gampp, & Paul (2007)						
8	Wang, Spychala, Harris, & Oetting (2013)						X

Table 20

Grouping Strategies of d/DHH Interventions

#	Author(s)	Small-Group	One-on-One	Mixed Abilities
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)			
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)			
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X		
4	Miller, Lederberg, & Easterbrooks (2013)	X		
5	Trezek & Malmgren (2005)		X	
6	Trezek & Wang (2006)	X		X
7	Trezek, Wang, Woods, Gampp, & Paul (2007)			
8	Wang, Spychala, Harris, & Oetting (2013)	X	X	

Table 21

Skills Focused on in d/DHH Interventions

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Language
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)	X				X	X	X
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)		X			X	X	
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X	X	X		X		
4	Miller, Lederberg, & Easterbrooks (2013)		X			X	X	
5	Trezek & Malmgren (2005)			X				
6	Trezek & Wang (2006)		X	X	X	X	X	
7	Trezek, Wang, Woods, Gampp, & Paul (2007)		X	X		X		

Table continues

#	Author(s)	Phonological Awareness	Phonemic Awareness	Phonics	Fluency	Vocabulary	Comprehension	Language
8	Wang, Spychala, Harris, & Oetting (2013)		X	X				

Table 22

Strategies Utilized in d/DHH Interventions

Strategies	Article Number
Articulatory Feedback	5, 6, 8
Assessment/Progress Monitoring	6
Consistency	6, 8
Discussion	4
Engagement	1, 4
Evidence-based	4
Explicit Instruction	1, 2, 3, 4, 6, 7, 8
Fast-paced	6
Modeling	7
Multiple Opportunities to Respond and Practice	1, 2, 4, 5
Repetition	4
Rephrasing/Restating	6, 7, 8
Shared Reading/Read Aloud	1, 4, 7
Speechreading	5, 6, 8
Story Retell	2
Systematic Instruction	6, 8
Technology	5, 8
Visuals	1, 2, 4, 5, 6, 8

Table 23

Curricula Utilized in d/DHH Interventions

#	Author(s)	Foundations	Visual Phonics	Reading Mastery I	Corrective Reading Decoding A	Unit-Based	LACES
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)	X	X				
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)	X					
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X					
4	Miller, Lederberg, & Easterbrooks (2013)	X				X	
5	Trezek & Malmgren (2005)		X		X		
6	Trezek & Wang (2006)		X	X			
7	Trezek, Wang,		X				X

Table continues

#	Author(s)	Foundations	Visual Phonics	Reading Mastery I	Corrective Reading Decoding A	Unit-Based	LACES
8	Woods, Gampp, & Paul (2007) Wang, Spychala, Harris, & Oetting (2013)		X	X			

Table 24

Language Utilized in d/DHH Interventions

#	Author(s)	Sign Language	Auditory/Oral	Total Communication
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)			X
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)	X	X	
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X	X	
4	Miller, Lederberg, & Easterbrooks (2013)		X	
5	Trezek & Malmgren (2005)			X
6	Trezek & Wang (2006)	X		
7	Trezek, Wang, Woods, Gampp, & Paul (2007)			X
8	Wang, Spychala, Harris, & Oetting (2013)			X

Table 25

Environment in Which Intervention Occurred

#	Author(s)	Pull-Out	Push-In	Did not specify
1	Beal-Alvarez, Lederberg, & Easterbrooks (2011)			X
2	Bergeron, Lederberg, Easterbrooks, Miller, & Connor (2009)	X		
3	Lederberg, Miller, Easterbooks, & Connor (2014)	X		
4	Miller, Lederberg, & Easterbrooks (2013)			X
5	Trezek & Malmgren (2005)			X
6	Trezek & Wang (2006)			X
7	Trezek, Wang, Woods, Gampp, & Paul (2007)			X
8	Wang, Spychala, Harris, & Oetting (2013)			X

EL with disabilities results. Upon completion of Table 10, intervention characteristics were categorized as seen in Table 26. Tables 27-31 show each category individually. Eight themes emerged as a result of further coding the information in Table 10. Those themes will be discussed further.

Frequency and intensity. Interventions were coded based on days, minutes, and duration for the EL with Disability population. Of the nine articles reviewed, four interventions occurred three or more days a week while the days were not specified for the others. When minutes were reported, one article reported an intervention less than 30 minutes and five reported on interventions that were 30 minutes or longer. Two interventions were less than 10 weeks and five were 10 weeks or longer. Table 27 displays the information related to frequency and intensity of the interventions.

Grouping strategies. Grouping strategies for the EL with Disability population appeared as small-group, one-on-one, and mixed abilities. Of the nine articles reviewed, seven interventions were conducted in small-groups with three of those small-groups being created with mixed abilities in mind. One of the interventions occurred one-on-one. Frequency of grouping strategies can be seen in Table 28.

Skills. Skills mentioned in the EL with disabilities interventions included four of the Big 5 in Reading, Phonics, Fluency, Vocabulary, and Comprehension (National Reading Panel, 2017), in addition to, comprehension and language. Frequency for each area is included in Table 29.

Strategies. Twenty strategies were derived from the nine EL with disability articles that were reviewed. The strategies include Dialogic Reading, discussions, encouraging/enthusiastic, error correction, explicit instruction, feedback, hand-on, learning centers, modeling, multiple

opportunities, PALS/CLS, repetition, rephrasing/restating, self-regulation, shared reading, simplified language, shared reading, simplified language, slow speech, technology, and visuals. The following strategies were mentioned once in the interventions, Dialogic Reading, discussions, encouraging/enthusiastic, error correction, feedback, learning centers, modeling, multiple opportunities, PALS/CLS, repetition, rephrasing/restating, self-regulation, simplified language, slow speech, technology, and visuals. Feedback and shared reading were mentioned in two interventions and error correction was mentioned within three of the interventions. Table 30 displays all of the above information.

Language. English was the primary language used throughout the interventions with some of the interventions utilizing both Spanish and English. Five of the interventions were done solely in English while two intervention utilized both Spanish and English. One of the interventions did not note language use at all. Frequency of interventions across languages is noted in Table 31.

Table 26

Broad Categories Derived From EL with Disabilities Interventions

#	Author(s)	Frequency and Intensity	Grouping	Skills	Strategies	Curriculum	Some intervention in Spanish	Some intervention in English
1	Echavarria (1996)	X		X	X			
2	Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)	X	X	X	X		X	X
3	Haager & Windmueller (2001)		X	X	X			X
4	Jozwik & Douglas (2017a)	X	X	X	X			X
5	Jozwik & Douglas (2017b)	X	X	X	X			X
6	Restrepo, Morgan, & Thompson (2013)	X	X	X	X		X	X
7	Sanez, Fuchs & Fuchs (2007)	X	X	X	X			X
8	Simon-Cerijido & Gutierrez-	X		X	X			X

Table continues

#	Author(s)	Frequency and Intensity	Grouping	Skills	Strategies	Curriculum	Some intervention in Spanish	Some intervention in English
9	Clellen (2013) Tam, Heward, & Heng (2006)	X	X	X	X			X

Table 27

Frequency and Intensity of EL with Disabilities Interventions

#	Author(s)	≤2 days a week	≥3 days a week	≤29 minutes	≥30 minutes	≤10 weeks	≥10 weeks
1	Echavarria (1996)					X	
2	Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)		X		X		X
3	Haager & Windmueller (2001)						
4	Jozwik & Douglas (2017a)			X			
5	Jozwik & Douglas (2017b)		X		X		X
6	Restrepo, Morgan, & Thompson (2013)						X
7	Sanez, Fuchs & Fuchs (2007)		X		X		X
8	Simon-Cerijido & Gutierrez-Clellen (2013)		X		X	X	

Table continues

#	Author(s)	≤2 days a week	≥3 days a week	≤29 minutes	≥30 minutes	≤10 weeks	≥10 weeks
9	Tam, Heward, & Heng (2006)				X		X

Table 28

Grouping Strategies for EL with Disabilities Interventions

#	Author(s)	Small-Group	One-on-One	Mixed Abilities
1	Echavarria (1996)			
2	Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)	X		
3	Haager & Windmueller (2001)	X		
4	Jozwik & Douglas (2017a)	X		X
5	Jozwik & Douglas (2017b)	X		X
6	Restrepo, Morgan, & Thompson (2013)	X		
7	Sanez, Fuchs & Fuchs (2007)	X		X
8	Simon-Cerijido & Gutierrez-Clellen (2013)	X		
9	Tam, Heward, & Heng (2006)		X	

Table 29

Skills Addressed in EL with Disabilities Interventions

#	Author(s)	Phonological Awareness	Phonics	Fluency	Vocabulary	Comprehension	Language
1	Echavarria (1996)						X
2	Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)				X		X
3	Haager & Windmueller (2001)	X	X	X			
4	Jozwik & Douglas (2017a)				X		
5	Jozwik & Douglas (2017b)					X	
6	Restrepo, Morgan, & Thompson (2013)				X		
7	Sanez, Fuchs & Fuchs (2007)		X	X		X	
8	Simon-Cerijido & Gutierrez-				X		X

Table continues

#	Author(s)	Phonological Awareness	Phonics	Fluency	Vocabulary	Comprehension	Language
9	Clellen (2013) Tam, Heward, & Heng (2006)			X	X		

Table 30

Strategies Utilized in EL with Disabilities Interventions

Strategies	Article Number
Dialogic Reading	6
Discussions	1
Encouraging/Enthusiastic	2
Error Correction	9
Explicit Instruction	3, 4, 5
Feedback	4
Hands-on	2, 6
Learning Centers	8
Modeling	4
Multiple Opportunities	8
PALS/CLS	4
Repetition	2
Rephrasing/Restating	2
Self-Regulation	4
Shared Reading	7, 8
Simplified Language	2
Slow Speech	2
Technology	5
Visuals	2

Table 31

Language Used in EL with Disabilities Interventions

#	Author(s)	Spanish	English	Spanish & English
1	Echavarria (1996)			
2	Gutierrez-Clellen, Simon-Cereijido, & Sweet (2012)			
3	Haager & Windmueller (2001)			X
4	Jozwik & Douglas (2017a)		X	
5	Jozwik & Douglas (2017b)		X	
6	Restrepo, Morgan, & Thompson (2013)			X
7	Sanez, Fuchs & Fuchs (2007)		X	
8	Simon-Cerijido & Gutierrez-Clellen (2013)		X	
9	Tam, Heward, & Heng (2006)		X	

Results across populations. Table 32 is a culmination of all the strategies discussed within each population. Of the 34 different strategies, overlap occurred among 20 of the strategies. Overlap occurred among the following strategies: (1) assessment/progress monitoring, (2) corrective feedback/error correction, (3) Dialogic Reading, (4) discussions, (5) engagement, (6) evidence-based practices, (7) explicit instruction, (8) fast-paced, (9) hands-on, learning centers, (10) modeling, (11) multiple opportunities to respond/practice, (12) PALS/CLS, (13) repetition, (14) rephrasing/restating, (15) self-regulating/self-monitoring, (16) shared reading/read aloud, (17) story retell, (18) systematic instruction, (19) technology, and (20) visuals. Overlap occurred among two of the three populations for 15 of the strategies and among all three populations for five of the strategies. Overlap among all three populations was present in (1) explicit instruction, (2) modeling, (3) multiple opportunities to respond/practice, (4) repetition, and (5) shared reading/read aloud. The strategies reflected in Table 32 were then coded in an effort to determine an intervention package to utilize with the d/DHH/EL population. Figure 6 reflects the more concise intervention package.

Table 32

Strategies by Population

Strategy	ELs	d/DHH	ELs with disabilities
Assessment/Progress Monitoring	X	X	
Articulatory Feedback		X	
Consistency		X	
Corrective Feedback/Error Correction	X		X
Dialogic Reading	X		X
Discussions		X	X
Encouraging/Enthusiastic			X
Engaging	X	X	
Evidence-Based	X	X	
Explicit Instruction	X	X	X
Fast-Paced	X	X	
Hands-On	X		X
Intensive Instruction	X		
Learning Centers	X		X
Modeling	X	X	X
Multiple Opportunities to Respond and Practice	X	X	X
PALS/CLS	X		X
Prompts	X		
Reinforcement	X		
Repetition	X	X	X
Rephrasing/Restating		X	X
Reteaching	X		
Scaffolding	X		
Self-Monitoring/Self-Regulation	X		X
Shared Reading/Read Aloud	X	X	X
Simplified Language			X
Slow Speech			X
Speechreading		X	
Story Retell	X	X	
Systematic Instruction	X	X	
Tangibles	X		
Technology		X	X
Visuals	X	X	X
Wait Time	X		

Discussion

Searches of interventions for the EL, d/DHH, and EL with disabilities populations yielded a great deal of information. In an effort to derive more specific information from the searches, broad categories were further delineated in an effort to get to the root of the strategies being utilized. Strategies utilized within all of the populations were categorized in an effort to determine an intervention package that could be utilized with the d/DHH/EL population. Figure 6 displays the five characteristics that were prevalent among all three populations. All other characteristics were included to show how they pertain to the five items. Since overlap occurred among all three populations for those five items, that might indicate a potential intervention package to use with the d/DHH/EL population.

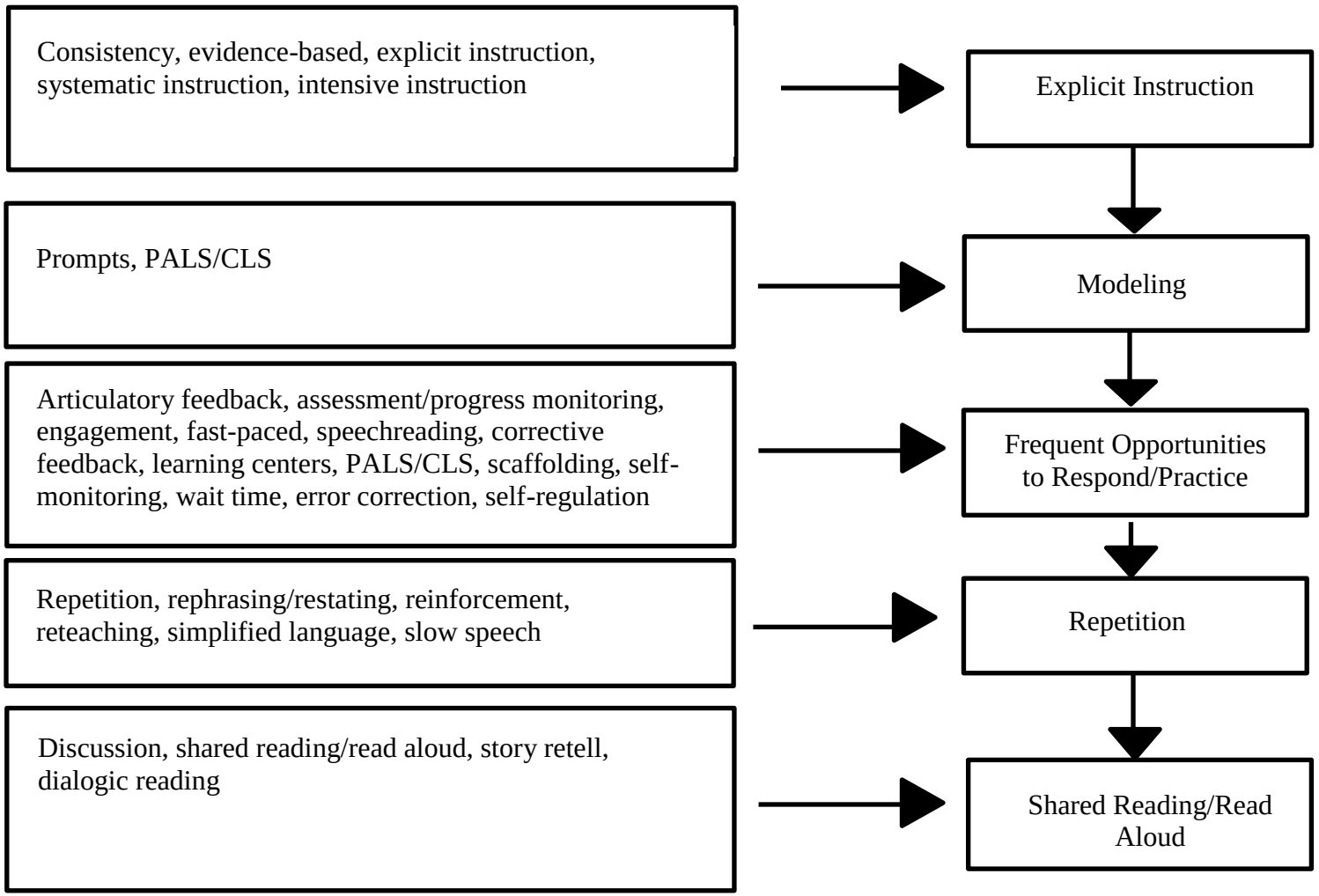

Figure 6. Common strategies among all three populations.

All of the strategies derived from the intervention packages were categorized to find a reasonable intervention package to utilize with the d/DHH/EL population. Many strategies overlapped among the populations, but five strategies overlapped among all three populations. Those strategies included explicit instruction, modeling, frequent opportunities to respond/practice, repetition, and shared reading/read aloud.

Explicit Instruction

Three of the five components in Figure 6 mimic a model of explicit instruction. **"**Explicit instruction is a structured, systematic, and effective methodology for teaching academic skills" (Archer & Hughes, 2011, p. 1). Modeling and frequent opportunities to practice/respond, as reflected in Figure 6, as well as prompts and reinforcement are all key components in leading to increased achievement for all students (Brophy & Good, 1986). The impact explicit instruction could have on the d/DHH/EL population would not be surprising especially when one considers the role explicit instruction plays in literacy development for ELs, individuals who are d/DHH, and individuals who are ELs with disabilities individually.

Reading challenges for individuals who are ELs could possibly be prevented with the incorporation of explicit, intense, and systematic instruction (Gyovai, Cartledge, Kourea, Yurick, & Gibson, 2009). Additionally, when an intervention includes explicit teaching as a component, increased student progress is prevalent (Kamps et al., 2007). ELs with disabilities benefit from interventions that combine explicit teaching and contextualized practice (Gorman, 2009). Explicit instruction with students who are d/DHH also leads to increased improvement in the area of literacy (Beal-Alvarez et al., 2011; Bergeron et al., 2009; Lederberg et al., 2014; Miller et al., 2013; Trezek & Malmgren, 2005; Trezek & Wang, 2006; Trezek et al., 2007; Wang et al., 2013).

Modeling

Modeling is when individuals learn through observation by a new concept or approach being demonstrated (Haston, 2007). Research suggest that modeling is effective for all three populations reviewed. Individuals who are ELs benefit from explicit modeling and instructional focus (Tang, 1992). In deaf education behaviorist models tend to favor modeling, as well (Paul, 2009). Individuals who are ELs with disabilities should be held to the same standards as other learners (Artiles & Ortiz, 2002), therefore, indicating the presentation of similar teaching strategies. Harbour and colleagues (2015) found that modeling has proved to decrease student error, result in a positive perspective of tasks, and increase self-regulated learning and student confusion is reduced and understanding is enhanced when explicit examples are modeled.

Frequent Opportunities to Respond/Practice

When a response is sought from a student following an instructional statement, question, or gesture multiple opportunities to respond/practice is encouraged (Sprick, Knight, Reinke, & McKale, 2006). Teacher behavior that leads to a prompted or solicited student response also encourages the practice of multiple opportunities to respond/practice (Simonsen et al., 2008). Several opportunities for social interactions with other children are critical for ELs (Ballantyne, Sanderman, & McLaughlin, 2008). For ELs to develop a rich understanding of meaning and use of new words, students require multiple exposures to words (Tabors, 2008). In deaf education classrooms, verbal expression and interaction opportunities are high (Cawthon, 2001). Opportunities for exposure to vocabulary words in a variety of contexts is best for students who are d/DHH (Stahl, 2005).

Repetition

Repetition provides practice needed to master new skills. Repetition of vocabulary for students who are d/DHH is critical (Stahl, 2005). Repetition through using a text in many different ways to reinforce understanding of the vocabulary and concepts is also beneficial to ELs (Tompkins, 2012).

Shared Reading/Read Aloud

Shared reading is reading with students, whereas, a read aloud is when students are read to. In read aloud, word learning is encouraged through explanations of targeted vocabulary (Brabham & Lynch-Brown, 2002; Coyne, Simmons, Kame'ennui & Stoolmiller, 2004). Comprehension, vocabulary, and interest in reading has been shown to increase with ELs through fluent read-alouds (Trelease, 2013). Dialogic reading, an interactive reading experience, resulted in significant increases in language development for students who are d/DHH (Whitehurst et al., 1994). While some variations were present in strategies among populations, no single strategy stood out as being solely unique to one population

Limitations

Potential limitations of this literature review are important to consider. First, while the intent was to conduct a comprehensive review of the literature, it is possible that important studies were omitted due to the search terms used and missed due to human error during further review of citations. Second, the age constrictions might have resulted in elimination of strategies that were proven to be effective in literacy development. Third, dissertations, book chapters, and reports were eliminated from further review in this study. Elimination of the previous could result in omission of relevant information. Combining strategies from all three populations in an

effort to come up with a more condensed intervention package might have resulted in missed strategies.

Implications for Future Research

The searches conducted for each population returned results from which strategies could be derived and an intervention package could be recommended. Articles analyzed presented findings that yielded effectiveness or ineffectiveness of interventions, but often incorporated multiple strategies. Therefore, it is impossible to know which individual strategies or if all strategies were beneficial in making the interventions successful. Evidence-based research is defined as studies that include experimental control, replication of results through multiple studies, generalizability of results, rigorous peer-reviewed research dissemination and convergence of results among studies (Dahlkemper, 2003). Replications of existing empirical-based interventions is critical for building an evidence base of effective strategies (Banner & Wang, 2011; Horner et al., 2005; Luckner & Handley, 2008; Luckner et al., 2005/2006). Not all strategies derived from the searches have an evidence base. Given the effectiveness of evidence-based strategies with all learners, it is essential for additional research to be done within all three populations to further determine evidence-based strategies for instruction (Rathvon, 2008).

While not all strategies were evidence-based, the culmination of strategies that would be recommended as an intervention package for the d/DHH/EL population do have an evidence-base. Knowing this, it is fair to say that using those strategies with various populations of learners may result in positive outcomes.

Of the articles analyzed, the majority of the participants were of early childhood or early elementary age. It is important to remember that within the literature review, ages were constricted between preschool-8th grade, however, information on literacy development in the

higher elementary grades is sparse. While literacy development is crucial in the early years, research on how to continue to support literacy development throughout the years is essential considering the fact that foundational skills for learning to read begins at infancy and is an ongoing process throughout the lifespan (NRP, 2000).

Lastly, additional research related to the d/DHH/EL population is needed. No articles within the EL with disability population included individuals who were d/DHH. A few studies exist but were excluded from this study based upon additional inclusion and exclusion criteria. For over 50 years, delayed literacy skills for individuals who are d/DHH have persisted (Commission on the Education for the Deaf, 1988; National Agenda Steering and Advisory Committee, 2005). In fact, the best-known statistic regarding literacy in d/DHH students is that the average d/DHH student graduates high school reading at a 4th grade level (Traxler, 2000). These disappointing statistics are not inclusive of those that exist with the EL population, however, wide discrepancies exist between students from diverse language backgrounds and those of the majority population in terms of literacy (Gutierrez-Clellen, 1999). Knowing this, reiterates the importance of building a pool of evidence-based strategies to use with the d/DHH/EL population.

Teacher of the Deaf Knowledge

Knowing some strategies that overlap among the EL, d/DHH, and EL with disability populations can provide some possibilities for educating students who are d/DHH/EL. In addition to knowing strategies, it is important to consider what professionals in the field of deaf education know about this population of students. To determine teacher of the deaf knowledge, an additional literature review was conducted.

Methods

Article Selection Process

Articles were located using a three-step process. To begin, a comprehensive search of seven databases was conducted. Next selection criteria were applied to the returned results. After those two steps, reference list searches were conducted. This order was followed for the searches in an effort to locate all the articles that focus on teacher knowledge of the d/DHH/EL population.

Searches in databases. The following databases are where the searches were conducted: Academic Search Complete, Cumulative Index of Nursing and Allied Health Literature (CINAHL) Plus with Full Text, Education Full Text, Educational Resources Information Center (ERIC), MEDLINE, Professional Development Collection, and PsychInfo. Results were determined by using search terms in conjunction with Boolean terms AND and OR. The search was conducted in the following way *"teacher OR educator OR teacher of the deaf AND skills OR knowledge OR training AND deaf or hard of hearing or hearing impaired AND English language learners or ell or esl."*

Inclusion/exclusion criteria. Title and abstracts were read to determine article inclusion and exclusion. Article inclusion/exclusion criteria considered the following:

1. focus on students who are d/DHH;
2. discussed multilingual learners;
3. mentioned diversity along with deafness; and
4. referenced areas and situations where English was the primary language spoken.

Additionally, search parameters were set to include articles in the last 10 years (2008-2018). A search was limited to the last 10 years because education is consistently changing and, in an

attempt, to capture what is currently happening in the field, years were limited. After applying search parameters, 28 results were returned. When considering inclusion/exclusion criteria, only two articles remained. An additional two articles were found when searching through the work of authors who are known in the field who research the population of d/DHH/EL.

Needs of Population

Students who are d/DHH continue to have diversified needs. Statistics on d//DHH/EL population support this when one considers that in 2016 approximately 221,000 individuals were d/DHH (NIDCD, 2015; U.S. Census Bureau, 2017). Of those individuals who were d/DHH approximately 25% came from a home where another language was spoken (Guardino et al., 2014), therefore, indicating approximately 55,250 students who are d/DHH coming from homes where English is not the primary language spoken. Knowing the statistics on this diversified population makes it critical to examine teacher knowledge of the population.

Program Types

According to Cannon and Luckner (2016), the majority of programs to train teachers of students who are d/DHH follow one of three frameworks: (a) comprehensive, (b) listening and spoken language, (c) bilingual/bicultural. According to Cannon and Luckner (2016), 64 programs to train teachers of the deaf (TOD) currently exist in United States and Canada. Of the programs that exist, 78% are comprehensive, 13% bilingual/bicultural, and 9% utilize the listening and spoken language framework.

In comprehensive programs, student utilize a variety of assistive listening devices and course work typically includes information in the areas of language, literacy, consultation, audiology, speech pathology, aural rehabilitation, and sign language along with instructional strategies (Cannon & Luckner, 2016). Audiology, aural rehabilitation, and techniques for

listening and speech development as well as specialized teaching strategies are often the primary focus in listening and spoken language programs (Cannon & Luckner, 2016). Listening and spoken language programs strive to increase auditory access and spoken language development. Programs that focus on a bilingual/bicultural approach emphasize American Sign Language (ASL) acquisition and English through bilingual instruction in reading and writing. Within bilingual/bicultural programs, Deaf culture is a focus and ASL proficiency and visual learning needs is accentuated (Cannon & Luckner, 2016).

Program variety demonstrates the nature of the extent of information that is required to effectively train TODs. Depending on the program attended, TOD graduate with differing skill sets. This is a result of not all programs focusing on the same concepts. For instance, only some programs focus on the bilingual aspects of language development and ASL and no programs focus on sign language from other countries, all of which would be valuable in serving d/DHH/ELs and their families (Cannon & Luckner, 2016).

A consistent decrease in TOD programs has occurred over the last 30 years (Cannon & Luckner, 2016; Dolman, 2010; Jones & Ewing, 2003; Paul, 2015). To further complicate programming, a decline in TOD programs continues. Table 33 portrays the decline from 1986 to 2015.

Table 33

Decline in TOD Programs

Year	Number of Programs
1986	83
2002	70
2010	69
2015	64

Note: (Cannon & Luckner, 2016; Dolman, 2010; Jones & Ewing, 2003; Paul, 2015)

Despite the decrease in programs, program graduates have remained stable (Dolman, 2010). Furthermore, TOD programs are not evenly dispersed geographically, and 16 states and 8 Canadian provinces have no TOD preparation programs (Cannon & Luckner, 2016). In an effort to train individuals in the geographic areas where no programs are offered, online and hybrid programs have been created (Cannon & Luckner, 2016). Of the programs in the United States and Canada, 38% are online or hybrid programs (Cannon & Luckner, 2016).

While a variety of program types exist, information within those programs might not be adequate enough to meet the needs of the changing population of d/DHH students. Number of programs, geographic locations, and program delivery also play a role in current TOD preparation programs. Lastly, the field is not only facing challenges because of a shortage of programs, but also because there is a shortage of faculty to coordinate programs (Benedict, Johnson, & Anita, 2011).

Candidate Diversity

An examination of diversity in American education (Albert Shanker Institute, 2015) revealed that from 1987 to 2012 there was an increase in the racial-minority component of teaching from 12% to 17%, while the population of minority-members in the student population increased more than 50% (Cannon & Luckner, 2016). Recruitment was not found to be the main issue, but rather early career teacher retention (Cannon & Luckner, 2016). Teachers who are culturally-linguistically diverse (CLD) primarily work in urban areas. Inadequate funding, resources, and support services are prevalent in urban areas which often impacts professional autonomy, which can lead to attrition (Cannon & Luckner, 2016). While it is difficult to determine specific demographic characteristics of practicing and preservice TOD, it is apparent that greater diversity is needed in the field (Correa-Torres & Durando, 2011). The need for

diversity is significant when considering students who are d/DHH/ELs. It is possible that students who are d/DHH/ELs might benefit from role models in identity development (Cannon & Luckner, 2016) which is known to positively impact resilience in students and mentors (Cawthon, Johnson, Garberoglio, & Schoffstall, 2016). Eighty to 90% of TOD are Caucasian, female, and hearing (Cawthon et. al, 2016; Luckner & Ayantoye, 2013), therefore, signifying little diversity within the TOD population. Familiarity with TOD programming and candidate diversity is important to consider, but ultimately one must be familiar with knowledge that should be considered to successfully teacher individuals who are d/DHH/ELs.

Teacher Knowledge

Needs of TOD who work with students who are d/DHH/ELs can be explored by looking at a variety of professional standards including those by the Council on Exceptional Children (CEC), the Canadian Association of Educators of the Deaf and Hard of Hearing (CAEDHH; specialist certification standards), The National Association of Australian Teachers of the Deaf (NAATD; competencies), and the Council on Education of the Deaf (CED) (Cannon & Luckner, 2016). After examination of standards produced by the previous organizations, Cannon and Luckner (2016) found that the CEC standards are the most thorough in relation to CLD factors. The following image portrays the CED standards as displayed in the *Increasing Diversity in Teacher Preparation* article.

Special Education Standards Relating to d/Deaf and Hard of Hearing Multilingual Learners

CEC Standards: **Specialty Set: Initial Special Education Deaf and Hard of Hearing**

Note. Excerpted from CEC Initial and Advanced Specialty Sets, Council on Exceptional Children, 2015.

Standard	*Code*	*Description*
Standard 1: Learner Development and Individual Learning Difference	ISCI 1 K5	Cultural perspectives influencing the relationships among families, schools, and communities as related to instruction
	ISCI 1 K7	Characteristics and effects of the cultural and environmental milieu of the individual with exceptionalities and the family
	ISCI 1 K12	Differing ways of learning of individuals with exceptionalities, including those from culturally diverse backgrounds, and strategies for addressing these differences
	ISCI 1 K13	Effects of cultural and linguistic differences on growth and development
	ISCI 1 K14	Characteristics of one's own culture and use of language and the ways in which these can differ from other cultures and uses of languages
	ISCI 1 K15	Ways of behaving and communicating among cultures that can lead to misinterpretation and misunderstanding
	DHH1K4	Influence of cultural identity and language on all developmental domains
Standard 2: Learning Environments	ISCI 2 K7	Strategies for preparing individuals to live harmoniously and productively in a culturally diverse world
	ISCI 2 K8	Ways to create learning environments that allow individuals to retain and appreciate their own and each other's respective language and cultural heritage
	ISCI 2 K9	Ways cultures are negatively stereotyped
	ISCI 2 K10	Strategies used by diverse populations to cope with a legacy of former and continuing racism
	DH2 K1	Influence of family communication and culture on all developmental domains
Standard 3: Skills	ISCI 2 S1	Create a safe, equitable, positive, and supportive learning environment in which diversities are valued
	ISCI 2 S13	Organize, develop, and sustain learning environments that support positive intracultural and intercultural experiences
	ISCI 2 S14	Mediate controversial intercultural issues among individuals with exceptionalities within the learning environment in ways that enhance any culture, group, or person
	DHH2S1	Provide ongoing opportunities for interactions between individuals who are deaf or hard of hearing with peers and role models who are deaf or hard of hearing

Figure 7. CEC specialty standards. Adapted from CEC Standards by Council on Exceptional Children (2015). Retrieved from https://muse-jhu-edu.libproxy.lib.ilstu.edu/article/615747/pdf.

Standard	*Code*	*Description*
Standard 4: Assessment	ICC 8S6	Use assessment information in making eligibility, program, and placement decisions for individuals with exceptionalities, including those from culturally and/or linguistically diverse backgrounds
Standard 5: Instructional Planning and Strategies Skills	ISCI 5 S7	Develop and select instructional content, resources, and strategies that respond to cultural, linguistic, and gender differences
Standard 6: Professional Learning and Ethical Practice	ISCI 6 K5	Issues in definition and identification of individuals with exceptionalities, including those from culturally and linguistically diverse backgrounds
	ISCI 6 K8	Historical points of view and contribution of culturally diverse groups
	ISCI 6 K9	Impact of the dominant culture on shaping schools and the individuals who study and work in them
	ISCI 6 K10	Potential impact of differences in values, languages, and customs that can exist between the home and school
	ISCI 6 K11	Personal cultural biases and differences that affect one's teaching
Standard 7: Collaboration	ISCI 7 K4	Culturally responsive factors that promote effective communication and collaboration with individuals with exceptionalities, families, school personnel, and community members
National Association of Australian Teachers of the Deaf: **Competencies for Teachers of the Deaf** *Note.* Excerpted from *National Standards for Teachers of the Deaf*, National Association of Australian Teachers of the Deaf, 2014.		
Standard 1: Curriculum, Teaching, and Learning	1.3	Demonstrate professional practice by providing effective and supportive teaching strategies across a range of settings, age groups, and sociocultural contexts
	1.5	Demonstrate knowledge and professional practice related to the importance of role models (e.g. Deaf, hearing-impaired, hearing, ethnic)
Standard 4: Professionalism	4.2	Demonstrate professional and ethical practice which reflects 4.1 in respect to diversity of cultures, perspectives, and opinions
Australian Institute for Teaching and Learning: **National Standards for Teachers of the Deaf** *Note.* Excerpted from *National Standards for Teachers of the Deaf*, National Association of Australian Teachers of the Deaf, 2014.		
Standard 1: Know students and how they learn	1.3	Students with diverse linguistic, cultural, religious, and socioeconomic backgrounds: • Demonstrate awareness of cultural perspectives related to disability and deafness and their impact on the learning potential of students who are deaf or hard of hearing • Demonstrate understanding of Deaf culture and its influence on the students' identity, language, educational, and social experiences • Demonstrate awareness of the place of Auslan (Australian Sign Language) in the school curriculum and its relationship with spoken language in bilingual programs

Figure 7 continued. CEC specialty standards. Adapted from CEC Standards by Council on Exceptional Children (2015). Retrieved from https://muse-jhu-edu.libproxy.lib.ilstu.edu/article/615747/pdf.

Standard	*Code*	*Description*
	1.4	Strategies for teaching Aboriginal and Torres Strait Islander students: • Demonstrate awareness of the prevalence of conductive hearing loss caused by otitis media and its impact on learning • Demonstrate awareness of Aboriginal sign languages ("hand talk") and their use with students who are deaf or hard of hearing in Aboriginal and Torres Strait Island communities
Standard 2: Know the content and how to teach it	2.1	Content and teaching strategies of the teaching area
	2.4	Understand and respect Aboriginal and Torres Strait Islander people to promote reconciliation between Indigenous and nonindigenous Australians • Demonstrate broad knowledge of, understanding of, and respect for Aboriginal and Torres Strait Islander histories, cultures, and languages
Canadian Association of Educators of the Deaf and Hard of Hearing: **Specialist Certification Standards** *Note*. Excerpted from *Specialist Certification Standards*, Canadian Association of Educators of the Deaf and Hard of Hearing, 2009.		
Learning Environments/ Social Interactions	C1	1. The influence of family communication and culture on all developmental domains
Curriculum, Teaching, and Learning	Goal 2	To provide effective and supportive teaching strategies across a range of settings, age groups, sociocultural contexts, communication needs, and individual learning requirements

Figure 7 continued. CEC specialty standards. Adapted from CEC Standards by Council on Exceptional Children (2015). Retrieved from https://muse-jhu-edu.libproxy.lib.ilstu.edu/article/615747/pdf.

The specialty set of CEC standards contain the greatest number of knowledge and skill competencies relevant to individuals who are d/DHH/EL with 23 knowledge competencies and 7 skill competencies (Cannon & Luckner, 2016).

A dearth of research exists in the field of deaf education on educating students who are culturally and/or linguistically diverse. Knowing this, some recommendations have been made by researchers when teaching students who are d/DHH/ELs. Within the realm of teacher knowledge different categories should be considered such as attitudes, knowledge, and skills. Considering these broad areas and considerations within them when thinking about individuals who are d/DHH/ELs can be advantageous.

Attitudes

Norms and values of mainstream Western culture are embraced in United States and Canadian schools (Ormrod, 2014). Students growing up in families and communities who follow the Western culture often have the ability to adjust to school and classroom practices. Students growing up in families and communities that are culturally diverse might have a more difficult transition to school because of differences between home and school which can negatively impact adjustment to school and academic performance (Phalet, Andriessen, & Lens, 2004). Professionals within the field need to be aware of their own cultural beliefs and biases and willing to understand the actions and thoughts of individuals who are CLD (Banks et al., 2005). High expectations for students who are CLD by teachers can result in stronger motivation and greater interest (August & Siegel, 2006; Jussim, Robustelli, & Cain, 2009).

Knowledge

Humans require their physical needs to be met if they are going to survive which includes food, shelter, and water. Researchers have also found that four additional needs are important to be met for developing, learning, and achieving (Ormrod, 2014). Those four items are arousal, relatedness, competence, and self-determination (Cannon & Luckner, 2016). Learning environments should engage students in stimulating lessons, peer interactions, age-appropriate autonomy, and scaffolding of students' efforts to facilitate completion of challenging tasks (Ormrod, 2014) which in turn will support arousal, relatedness, competence, and self-determination.

Proficiency in a language is critical considering language provides for communication with family, friends, and acquaintances and is the foundation for reading, writing, and mathematics (Cannon & Luckner, 2016). It is pertinent that teachers working with students who

are d/DHH/ELs understand the necessity of assessing language proficiency for planning (Alvarez, Ananda, Walqui, Sato, & Rabinowitz, 2014). Various assessments should be utilized to determine proficiency levels. Following this determination, evidence of student learning should be gathered. Lastly, feedback on student learning should be provided. Utilizing assessment data to drive instruction should be a continuous common practice (Alvarez et al., 2014). Given the importance of everyday conversational skills, Basic Interpersonal Communication (BICs) and understanding of academic language, Cognitive/Academic Language Proficiency, BICs and CALP should be considered because of their importance to academic success (Cummins, 2000). Students from CLD backgrounds require multiple opportunities throughout the day to use conversational language and academic language (Carhill, Saurez-Orozco, & Paéz, 2008). Engagement in integrated instruction of rigorous content and related academic language along with specific instructional techniques such as building background knowledge, modeling, scaffolding, and teaching learning strategies is critical for those students from CLD backgrounds (Gay, 2010; Walqui & van Lier, 2010). Meaningful purpose and context for language learning is achieved through integrating content and language instruction (Cannon & Luckner, 2016). This type of practice along with structured high-quality interactions with peers, teachers, and texts provide for deepened content knowledge and allow for more motivation to use language as a tool to demonstrate and explain knowledge (Alvarez et al., 2014).

Lastly, teaching must be culturally responsive. CRT requires the use of cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to increase relevancy and effectiveness of learning (Gay, 2010).

Skills

Outcomes for individuals who are CLD are impacted by skills used in establishing daily routines, lesson preparation, utilization of essential teaching practices, and modification of instruction and use of formative assessment to monitor student language, content use, and knowledge (Echevarría & Graves, 2015). Clear learning objectives, systematic instruction, and opportunities for interaction lead to effective instruction (Cannon & Luckner, 2016). Sheltered instruction is one approach to teaching grade-level content that has some research to support it (Short, Echevarría, & Richards-Tutor, 2011; Short, Fidelman, & Louguit, 2012). Sheltered instruction includes the following components (a) lesson preparation inclusive of content objectives, language objectives, and determination of supplementary materials and learning activities, (b) building background, (c) instruction that includes modeling, explanation, learning strategies, and scaffolding, (d) interactions and discussions between teacher and students and among students, (e) practice and application that include opportunities to use content and language skills, and (f) review and assessment of student learning (Echevarría & Graves, 2015).

In addition to attitudes, knowledge, and skills, collaboration and research are relevant to this population of learners. Individuals who are d/DHH/ELs are a heterogenous group. Several factors lead to variance among each individual including home language, home culture, cultural orientation, physical and psychological history, previous schooling, acculturation, degree of hearing loss, whether or not early intervention services were received, presence of a disability, and preferred communication modality along with typical factors for any learner such as intelligence, socioeconomic status of the family, composition of the family, and community resources (Cannon & Luckner, 2016). Knowing all the differences that can exist from one

individual to the next iterates the importance of collaborating with others in education and family members to try and achieve the best outcomes for each student (Cannon & Luckner, 2016). Collaboration with a variety of team members will help in understanding student interests, strengths, and areas of need which will ultimately lead to delivery of appropriate service plans (Cannon & Luckner, 2016).

As previously mentioned research on students who are d/DHH/ELs is minimal, but some information is still available to guide teacher preparation programs in making improvements to serve the population. Programs should embed skills to assist in utilizing resources and collaboration with other professionals which will positively impact not only individuals who are d/DHH/ELs, but also individuals who are d/DHH given the variety of environments in which TOD will work with students (Benedict et al., 2011). Furthermore, the field must begin to include information about d/DHH/ELs in coursework to complement the shift toward inclusive practices (Cannon & Luckner, 2016). Consideration of the complex learning and social needs of d/DHH/ELs will be supported through an increased number of diverse faculty positions (Cannon & Luckner, 2016).

Conclusion

Literacy skills are essential to success in society today. Research by Luckner et al. (2005/2006) provides everyday examples of the use of literacy skills which include accessing the internet, sending and receiving emails, reading instructional manuals, operating computers and cars, following directions for work, travel, and medications, reading the newspaper, and enjoying a book or magazine. Many of those examples are necessary to successfully navigate throughout life while others provide enjoyment. Literacy skills also serve a pertinent role in school. Without appropriate literacy, classroom participation is inhibited. Inability to function within a

classroom environment can lead to school failure, employment barriers, and challenges with social adjustment, and personal autonomy (Moats, 2000). Regardless of how it is viewed, literacy is key to a successful life (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008; Neumann et al., 2000). Utilizing strategies that are effective to aid in literacy development among populations with specific literacy needs is essential in order to help all students reach the highest potential.

Knowing the importance of literacy development in all students including those who are d/DHH/ELs makes it crucial to determine current teacher knowledge of individuals who are d/DHH/ELs. Some information exists on attitudes, knowledge, and skills needed by teachers. While this information provides a good starting place for teacher preparation programs collecting more information from individuals within the field can be beneficial to next steps needed to teach individuals who are d/DHH/ELs.

CHAPTER III: METHODOLOGY

Methods for the study are included in this chapter. The basic interpretative qualitative study design was selected to gain a better understanding of educator knowledge, concerns, and interventions about the d/DHH/EL population. This chapter will address the following elements: (a) problem statement, (b) purpose, (c) research design, (d) research questions, (e) sampling/population, (f) research instrument, (g) data collection, (h) data analysis, (i) study assumptions, and (j) ethical considerations.

Problem Statement

One of the many roles of educators in schools today is to ensure students are successful in the areas of literacy and language. This is not surprising when one considers that school and life success is determined by strong language and literacy skills (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008). Ensuring literacy and language success is an important endeavor regardless of additional factors. However, when additional factors are considered, such as disabilities and cultural differences, further information may be beneficial in better understanding the population and specific needs of the population.

Populations of individuals are everchanging today. Of the United States population, ELs comprise approximately 8.8% (NCELA, 2017) and individuals who are d/DHH comprise approximately 0.38% (GRI, 2011). While exact statistics relevant to the combined population of individuals who are d/DHH/ELs do not exist, it is known that in 2012, of the individuals who were d/DHH, 25% of them spoke Spanish in the home (Guardino et al., 2014). While these populations individually and combined comprise less than 25% of the US population, they still have characteristics that set them apart from other learners. It is also practical to assume that because of their low-incidence representation, fewer professionals might know how to best meet

their needs and specialized training might be needed. Historically, teachers of the deaf have not been educated to know and utilize strategies specific to the EL population (Cannon & Luckner, 2016).

A thorough review of literature revealed several strategies being utilized to aid in the literacy and language acquisition of students in these distinct populations. Knowing some possible strategies is a beneficial first step. Based on previous research related to teacher knowledge, it is also essential to explore knowledge of current and future TODs who will likely work directly with these students in the future.

Purpose

The purpose of this study was to determine knowledge, concerns, interventions, and strategies for the d/DHH/EL population. This information was gathered during focus groups. The focus groups consisted of preservice teachers, practicing teachers, supervisors of d/DHH programs, and teacher education faculty members.

Research Design

The current study utilized a qualitative research design. Qualitative research can be described as "an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms usually occurring phenomena in the social world" (Van Maanen, 1979, p. 520). Qualitative research provides for the opportunity to understand meaning people have constructed (Merriam, 2009). Therefore, a basic qualitative study design was ideally suited for answering the research questions this study addressed.

In order to address each of the research questions, focus groups were conducted. Focus groups are an interviewing technique that are used in qualitative research. "Any group discussion may be called a focus group as long as the researcher is actively encouraging of, and

attentive to the group interaction" (Kitzinger & Barbour, 1999, p. 20). The focus groups were run by the researcher with the ultimate goal of encouraging group interaction by ensuring the participants talk amongst themselves rather than interacting only with the researcher (Barbour, 2018). Topic guides must be utilized during focus groups that encourage interactions among precomposed groups (Barbour, 2018).

Research Questions

The following research questions were addressed as part of this study:

1.) What knowledge do preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for d/DHH education have about the population of d/DHH/EL?

2.) What are the primary concerns each of those groups have about meeting the needs of students who are d/DHH/EL?

3.) What interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL?

This study is significant because it provides information on knowledge, concerns, interventions, and strategies across stakeholder groups for an increasing and highly under-researched population. Findings from this study may have implications for the field moving forward.

Sampling/Population

Purposive sampling was used to recruit participants for the study. Purposive sampling allowed the researcher to predetermine a set criterion which would allow for comparisons to be made and participants to be "interrogated purposefully" (Barbour, 2018, p. 69). Focus groups were used in the study and were held at different locations during conferences that catered to professionals that met the sample criterion. Data were collected using purposive sampling from

individuals who responded to recruitment efforts through email blasts to organizations and groups specific to d/DHH service provision. Recruitment blasts were sent to members of the American College Educators—Deaf/hard of Hearing (ACE-DHH) conference, Illinois Supervisors of the Hearing Impaired (ISHI), the Illinois Teachers of the Deaf/Hard of Hearing (ITDHH), and students enrolled in Aural (Re)Habilitation In The Deaf/Hard of Hearing Classroom (SED 327) at Illinois State University.

Four focus groups were held at various locations to gather information from a variety of professionals in the field of deaf education (See Table 34). Each focus group was conducted using the same instrument which included thirteen open-ended questions (see Appendix A). Specific demographic data of participants was not obtained for any of the focus groups, however, gender-specific information could be derived from the video recordings. Below is a detailed explanation of focus group information gathered.

Table 34

Focus Group Descriptors

Focus Group	Location	n	Male	Female	Duration
Preservice Teachers	ISU	7	0	7	13:19
Inservice Teachers	ITDHH Conference	34	3	31	44:46
Supervisors of d/DHH programs	ITDHH Conference	23	1	22	34:35
Teacher Education Faculty (1)	ACEDHH Conference	4	0	4	40:35
Teacher Education Faculty (2)	Zoom	2	0	2	50:10

Preservice teacher participants. The preservice teacher participants were juniors in the Deaf Education program at Illinois State University. As part of their program sequence, they were enrolled in four courses this semester. One of the required courses they were enrolled in was Special Education (SED) 327, Aural (Re)Habilitation in The Deaf/Hard of Hearing

Classroom. The researcher contacted the instructor of SED 327, to seek permission to host a focus group with the students. A common date and time were set-up and the focus group was hosted on February 19, 2019.

Inservice teacher participants. The inservice teacher participants were attendees at the annual ITDHH conference on March 2, 2019. The conference ran from February 28, 2019 through March 2, 2019 in Naperville, IL. The ITDHH conference offered several simultaneous breakout sessions in which participants chose which session they would attend. Inservice teachers in the session "Meeting the needs of ALL students: Strategies for d/DHH students who are also English learners" chose to be participants.

Supervisors. The supervisor participants were attendees at the annual ISHI conference on February 28, 2019 in Naperville, IL. The ISHI conference is held the day before the ITDHH conference begins. The focus group was held at 2:00 prior to the conference ending at 3:15.

Teacher education program faculty participants. The teacher education program faculty participants were attendees at the annual ACE-DHH conference. The ACE-DHH conference was held in Chicago, IL from February 7, 2019 through February 9, 2019. Participation in the focus group was a choice on behalf of the participants. Two email blasts were sent via the ACE-DHH listserv to encourage participation in the focus group. The focus group was held on February 8, 2019. Prior to and following the ACE-DHH focus group, correspondence occurred with individuals who expressed desire to they were available to participate after the conference due to conflicts with the scheduled focus group date and time. In an effort to provide an opportunity for these individuals to participate, a focus group session was set-up online using Zoom. Two additional email blasts were sent to the ACE-DHH listserv to

join the Zoom focus group on Monday, March 4, 2019. Individuals who chose to join the Zoom link were participants in the session.

Research Instrument

The research instrument was a 13-item open ended questionnaire presented to each focus group. The items on the instrument were developed from the literature review. The purpose of this questionnaire was to generate a better understanding of the knowledge, concerns, and interventions used with the d/DHH/EL populations. Questions were written based on information gathered in the literature review as well as concerns and questions raised within the field through informal conversations between the researcher and individuals in the field. The questionnaire can be found in Appendix A. Table 35 indicates how the focus group questions were linked to the research questions.

Table 35

Linking Research and Focus Group Questions

Research Questions	Focus Group Questions
1. What knowledge do preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for the d/DHH education have about the population of d/DHH/EL?	1. What do you know about the size of the d/DHH/EL population? 2. What constitutes an individual as being d/DHH/EL? 3. What characteristics are often discussed/seen in the d/DHH/EL population? 4. What do educational placement options look like for the d/DHH/EL population? 5. Language considerations come up with this population, what information or thoughts do you have regarding that? 6. An interrelatedness exists between language, culture, and identity, what might that mean for this population?

Table continues

Research Questions	Focus Group Questions
2. What are the primary concerns each of these groups have about meeting the needs of students who are d/DHH/EL?	1. What do you feel are some of the biggest challenges in meeting the needs of the d/DHH/EL population? 2. What are your primary concerns related to meeting the need of the d/DHH/EL population? 3. In your experiences with this population, what has been challenging and/or concerning?
3. What interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL?	1. To aid in literacy and language development, how would you teach students who are d/DHH/EL? 2. What are specific teaching strategies you would utilize primarily with this population? 3. Is there an intervention package you would suggest using with this population? If so, what is it and why? 4. In your experiences with this population, are there strategies or interventions that you have utilized that have been successful?

Data Collection

After receiving approval from the Institutional Review Board (IRB)**,** the initial phase of the study consisted of recruiting and informing participants of upcoming focus groups (See Appendix B). Focus group hosting opportunities began in October of 2018 for inservice teachers when ITDHH conference proposals were due. Correspondence with the ACE-DHH conference planners began in January via email, and email blasts were sent in January and February to recruit teacher education faculty member participants. Supervisors of TODs were obtained through ISHI correspondence in January via email. Determining a time and date to host a focus group at ISU with preservice teachers began in January, and was confirmed and conducted in February. Zoom focus group correspondence occurred in February, following the conclusion of the ACE-DHH conference.

Once confirmation to host focus groups was provided and acceptance at ITDHH was received, basic information about the study was sent to the correspondents to be disbursed to the potential participants. The information was sent via email.

Focus Groups

Focus groups were scheduled in one-hour time slots. Each session began with study information read to participants from the informed consent (See Appendix C). Participants were asked to sign the informed consent form if they agreed to have their data included in the study. Signing the consent form indicated that the participants were willing to be videotaped and participate in the focus group. Participants were offered a copy of the consent form for their records.

Participants were informed that at a later date they would receive six Edpuzzles focused on statistics and strategies on d/DHH-EL students gathered in the literature review. If participants were interested in the obtaining copies of the Edpuzzles via email, they were asked to write their name and email address on a form that was passed around at the beginning of each session. Participants were given the opportunity to write their name and email address on a pre-made document in order to be sent Edpuzzles on the topic in the future (See Appendix D).

The video camera was turned on for recording at this time. Focus group sessions were video recorded for the purpose of transcribing the information following the session. The video camera was set-up in an effort to capture the majority of the group visually, but voice quality was deemed the most important for transcription purposes. A Cannon Camcorder was used and a new SanDisk Ultra 64GB microSDXC UHS card with adapter was used for each session.

Once the video camera was turned on, a series of thirteen questions were asked to the participants. Questions were read to the participants by the researcher. Time was allotted for

participant responses. Once the final question was asked and answered, the video camera was turned off.

The microSDXC UHS card was inserted into a MacBook Air for transcription. The video recording was opened through QuickTime and viewed for transcription. Transcriptions were typed into a Microsoft Word document and saved to the MacBook Air by name of the focus group. Following transcription of the videos, information was analyzed for pattern coding and theme generation.

Data Analysis

Analysis procedures within this study included open/in vivo coding and pattern coding. Open coding/in vivo coding was the first step used. All of the transcripts were reviewed by the researcher and codes found within the transcripts were pulled out. Information was pulled and labeled based on exactly what the participants said, or abstract labels were used to group like items. Following open/in vivo coding, pattern coding was used. With pattern coding, the researcher is able to take "a more abstract concept that bring together less abstract, more descriptive codes" (Punch, 2014, p. 174). Following pattern coding, broader categories and themes were generated. Table 36 displays the steps of coding the information for the broad categories and themes utilized.

All focus groups were initially transcribed using Amazon Word Transcription, which is a product of Amazon Word Services (AWS). The researcher uploaded all videos into Amazon S3. From there, the videos could be transcribed through Amazon transcribe. This service allowed for a quick transcription of all the focus groups. However, once completed the researcher re-watched the focus groups and edited the transcriptions from AWS checking for errors or inconsistencies.

All research questions were answered qualitatively using the 13-item opened ended questionnaire. The qualitative analysis of the study included focused or pattern coding and a thematic analysis. Thematic analyses are common in the area of qualitative research. In thematic analysis, information is analyzed in an effort to examine the information to determine common themes or patterns within the data (Nowell, Morris, White, & Moules, 2017). Responses to open-ended questions were analyzed and coded in an effort to determine patterns. Themes emerged from the analysis, "which is an outcome of coding" (Saldaña, 2013, p. 14).

Study Assumptions

Creswell (2012) explained four philosophical assumptions in qualitative research including ontological, epistemological, axiological, and methodological. Ontological research looks at the "nature of reality" (Merriam, 2009, p. 8). Epistemological research is a method that looks at the "nature of knowledge" (Merriam, 2009, p. 8). While axiological research focuses more on values and how they explain or clarify events of the world (Creswell, 2012). Methodological approach looks at how knowledge is discovered in a systematic way (Creswell, 2012). Therefore, the methodology for this study was qualitative with an ontological approach. The method for data collected was focus groups.

The ontological assumptions best fit this study. An ontological assumption describes the beliefs about reality and what one believes to be true and is used when evidence from a variety of individual's perspectives and experiences are explored and the researcher reports on several realities shared (Merriam, 2009). Knowledge that was gained throughout this study was the reality of preservice, inservice, supervisors, and teacher education faculty. The design of the study allowed for seven assumptions:

1. This is a growing population (Guardino et al., 2014; Cannon & Luckner, 2016; U.S. Department of Education, National Center for Education Statistics, 2013; NCELA, 2017; CDC, 2017; GRI, 2011).
2. Strategies and interventions used in this population are abundant with little to no evidence base for the combined population of d/DHH/ELs (Ballantyne, Sanderman, & McLaughlin, 2008; Beal-Alvarez et al., 2011; Bergeron et al., 2009; Cawthon, 2001; Gorman, 2009; Gyovai et al., 2009; Kamps et al., 2007; Miller et al., 2013; Stahl, 2005; Tabors, 2008; Tang, 1992; Trezek & Malmgren, 2005; Trezek & Wang, 2006; Trezek et al., 2007; Wang et al., 2013).
3. The assessments available are often inadequate (Alvarez et al., 2014).
4. Literacy is essential to the future success of students (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008; Neumann et al., 2000).
5. There is a lack of qualified professionals to work with the d/DHH/EL population (Cannon & Luckner, 2016; Cawthon, Johnson, Garberoglio, Ocuto, & Schoffstall, 2016; Dolman, 2010; Jones & Ewing, 2003; Paul, 2015).
6. Professionals need to implement culturally responsive teaching (Cannon & Luckner, 2016; Gay, 2010; Echevarría & Graves, 2015).
7. Teacher training is specific to one population, EL or d/DHH (Cannon & Luckner, 2016).

Due to all those factors, ELs continually perform below their typically developing peers, which in turns, can put them at disadvantages for career readiness and future success in life (August et al., 2009).

Ethical Considerations

The federal ethics policy was adhered to in this study (Public Welfare Department of Human Health and Human Services, 2009). A university IRB approved the study. Informed consent was obtained for all participants (See Appendix C).

Institutional Review Board

Prior to data collection, IRB approval was obtained through Illinois State University. IRB ensures that participants' rights are protected. The responsibility of the IRB is to ensure that participants are not harmed, consent is obtained, and confidentiality maintained. Initial approval for IRB exempt status was granted on January 24, 2019. A modification was made to the study to upload the correct version of informed consent on February 18, 2019. Approval of the modification was obtained on February 19, 2019. A second modification (submitted on February 19, 2019) was made to add a sentence to the consent about maintenance of confidentiality and that was approved on February 19, 2019.

Informed consent. Informed consent was obtained from each participant prior to beginning the focus group. Participants were given information about the study, the risks, benefits, confidentiality, and compensation. Each participant signed the consent if they agreed to participate in the study. Informed consents were collected and placed in a large envelope that was sealed once all consents were collected. The sealed envelope was delivered to Dr. Christy Border's office at Illinois State University.

Risks are involved in all research, but only minimal risk was prevalent in this study. There was potential for loss of confidentiality and feelings of discomfort answering questions in the focus group. No direct benefits occurred as a result of participation in the study, but some participants might have felt positive about providing input on improving strategies to educated

English learners. Participants who provided an email address were sent EdPuzzles on statistics and strategies found in the literature relevant to the d/DHH/EL population.

No costs were accrued as a result of being a participant in the study and no compensation was provided for participating in the study. However, participants received links to EdPuzzles on statistics and strategies found in the literature review relevant to the d/DHH/EL population. Participation in the study was voluntary. Refusal to participate in the study was acceptable. In addition, participants could refuse to answer any question. Opting out of the study at any time was permitted.

Confidentiality. Confidentiality was maintained throughout the study. No reference was made that could link individuals to the study. Furthermore, participants were encouraged to keep the information from the session confidential. All records were stored on the researcher's password-protected computer and hard copies of consent forms and SD cards were stored in Dr. Christy Border's locked office at Illinois State University. Data will be secured in these locations for three years and then destroyed.

Video recording was done using a Cannon Camcorder with a SanDisk Ultra 64GB microSDXC UHS card with adapter. Besides the Zoom focus group, the Cannon Camcorder was used during all of the focus groups and a new Ultra 64GB microSDXC UHS card with adapter was used for each focus group. Following transcription all four of the Ultra 64GB microSDXC UHS card with adapters were placed in an envelope that was sealed and delivered to Dr. Christy Border's secured office at Illinois State University. The Zoom focus group recording was saved to a flash drive and also delivered to Dr. Christy Border's secured office at Illinois State University. All data was also saved to the researcher's password-protected computer.

Positionality

As an inservice teacher of the deaf, I have the opportunity to experience firsthand where my deficits in the field lie. My goal, as a teacher, is to always strive to best meet the needs of my students. In my second year of teaching, I had a student in my classroom from a Spanish-speaking family with hearing loss. He was not progressing as previous students had or like other students in my classroom. In an effort to help students reach their full potential, I started having conversations with the team about considerations for this student. As a team, we tried some different interventions. In the meantime, I had the opportunity to collaborate with other professionals in the field in an attempt to fill the void of unknown information. My informal observations within these conversations led me to believe that many of the professionals in the field of deaf education do not understand the growing population of d/DHH/ELs. My personal experiences and conversations with colleagues led me to question our understanding, as a field of deaf education, of the d/DHH/EL population. All of this set me out on a journey to determine our understanding as a field from a variety of perspectives: inservice teachers, preservice teachers, supervisors of d/DHH programs, and teacher education faculty members.

Information sought out was determined based on experiences of mine both through teaching and conversations with others. Therefore, some preconceived ideas regarding unknown information and inconsistencies regarding research questions was assumed. I also felt that based on the participant groups, differences would arise in information shared given their roles in education.

Furthermore, since this is an emerging, I wondered if participants would be nervous to offer responses for fear that I was an expert on the topic. Several participants within groups shared information, but sometimes hesitation was present in the information that they shared.

Some participants asked for clarification to certain questions and wondered if their responses were what I was looking for. On the flipside, I was nervous to ask some of the questions in participant groups for fear of individuals feeling that those were known items in the field and judging me for seeking the information.

Trustworthiness

Intercoder reliability and agreement should be incorporated within qualitative research. When reliability and agreement are part of coding scheme development, sound data is presented, therefore, satisfying readers (Hruschka et al., 2004; Krippendorff, 2004; Miles & Huberman, 1984; Weber, 1990). For the purpose of this study, interobserver agreement was conducted. In qualitative research, various terms can represent what is being referred to as interobserver agreement. Interobserver agreement refers to agreement between two independent data collectors (Goodwin & Goodwin, 1984). Other terms are sometimes used to express the agreement such as; interobserver, interinterviewer, interrecorder, interanalyst reliability (Goodwin & Goodwin, 1984) or synchronic reliability (Kirk & Miller, 1986). Transcripts for each stakeholder group were reviewed and coded by the researcher and a qualitative methodologist. Once each individual was finished reviewing and coding the data, the two met to discuss themes that arose from each transcription. Similar themes emerged between the researcher and qualitative methodologist, therefore, making interobserver agreement strong.

Chapter Summary

The purpose of this study was to determine knowledge, concerns, and interventions known to preservice, inservice, supervisors of TOD, and TOD teacher education faculty about the d/DHH/EL population. In an effort to achieve this, focus groups were hosted with all participant groups. Upon completion of the focus groups, the information was transcribed and

coded for common themes within each participant group. Results of the data collected will be discussed in the next chapter.

CHAPTER IV: RESULTS

In this chapter, the results of the study are described. A qualitative study was conducted using focus groups to gain an understanding of educator knowledge, concerns regarding deaf/hard of hearing English learners, and interventions used for teaching individuals who are d/DHH/ELs. This chapter describes (a) coding steps, (b) Research Question 1, (c) Research Question 2, and (d) Research Question 3.

Participants were asked a total of thirteen questions in an effort to answer the following research questions:

1.) What knowledge do preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for d/DHH education have about the population of d/DHH/EL?
2.) What are the primary concerns each of those groups have about meeting the needs of students who are d/DHH/EL?
3.) What interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL?

Table 36 portrays the coding that occurred in order to derive the themes for each research question. Information about what participants said to answer each question will be further addressed following the table.

Table 36

Coding Steps Leading to Themes and Categories

Topic Questions	Open/In Vivo Coding	Pattern Coding	Themes & Categories
Prevalence	Small, geographic area impacts, 25% EL, changing, a lot, increasing, growing, 10-15% maybe higher no lower, 50-70%	Small, geographic, change, increasing/growing	Magnitude, accuracies, uncertainties
Definition	Deaf and speak another language, learning language for first time, without language for first years of life, behind typically-developing peers, any hearing loss along with learning another language, anyone with a second language in the home, goes through evaluation process and qualifies as deaf or hearing impairment for IEP, qualify from home language survey as ELL, learner using another language at home and English at school, d/DHH need amplification and EL there is federal legislation	Speaks language other than English, deaf/hearing loss, without language, behind typically-developing peers, learning additional language besides sign	Disability specific, difference specific, characteristics
Characteristics	Delayed speech, language, vocabulary, and comprehension; incorrect grammar structure; home school disconnect; lack of qualified role models; resistance to amplification and modalities; codeswitching; inconsistent language access; BICS; CALP;	Delayed speech, delayed language, delayed vocabulary, comprehension, difficulty with syntax, language disconnect between home and school, lack of qualified	Language development, socialization and behavior, background factors

Table continues

Topic Questions	Open/In Vivo Coding	Pattern Coding	Themes & Categories
	delayed vocabulary; L1 and L2 issues; behavioral concerns; age; background; SES; hearing loss; ability to sign; immigration status; language family uses; every child is different; shyness; low self-esteem; lack of incidental learning	professionals, inconsistent language access, BICS and CALP, codeswitching, behavioral concerns, resistance to technology and modalities, shyness, low self-esteem, age, background, SES, immigration status, hearing loss	
Educational Placements	All sign, all oral, d/DHH, EL, residential school, self-contained, resource, general education	Self-contained, mainstream, oral schools, EL classes, itinerant, EL consult, school for the deaf, resource room	Placement by types/need involving professionals
Language Considerations	Differences in language spoken at home and school, little balance, little home support, social aspects with friends, L1 and L2 issues, considering background, determining importance/prioritizing vocabulary, additional disabilities	Language of instruction, primary language development, vocabulary considerations, balance, family choice, strong language base	Process, goals, outcomes
Interrelatedness- language, culture, and identity	Home and school disconnect, both populations want to "fit in," cultural perception, importance of culture, respect and rapport, explicit connections, foster development early intervention, need for emotional support	Link to culture groups, home connection, cultural aspects incorporated into class, cultural perceptions	Cultural responsivity

Table continues

Topic Questions	Open/In Vivo Coding	Pattern Coding	Themes & Categories
Challenges/concerns	Grammar structure, vocabulary, content and language, can't do it all, scares me, cannot teach language when they don't understand, worried about achievement gap, home and school disconnect, interpreter and information getting lost, comprehension, explicit instruction, lack of resources, understand identification process, cultural perceptions, difficult evaluating performance of educator, difficulty with self-advocacy, immigration status, lack of qualified educators, cultural perception, inadequate assessments, additional disabilities, career-readiness, lack of incidental learning, parent-trust in professionals' recommendations and services, early intervention, attendance issues, transient, cultural responsiveness, language of services, different semantics, administrators lack of understanding of population, teacher training, need for interdisciplinary approach	Known to unknown, achievement gap, don't know what to do/what's right, language disconnect, comprehension, inadequate resources, challenges with process, challenges with contacts, no incidental learning, inadequate assessments, understanding culture/teacher cultural awareness, student self-advocacy, career readiness, parent education/advocacy, Early intervention, inconsistent attendance/transient, root of challenges, lack of qualified professionals	Starting point, language barriers, system
Interventions and Strategies	Visuals, auditory sandwich, visual sandwich, concept sandwich,	Visuals, repetition, auditory sandwich,	Strategies, curricula, structure

Table continues

Topic Questions	Open/In Vivo Coding	Pattern Coding	Themes & Categories
	vocabulary, engaging, repetition, auditory and visual highlighting, vigorous, home support, BICS/CALP, experiences, role play, exposure to native and new language, direct instruction, collaboration, modeling, labeling, language rich environments, language breakdown, pre-teaching, re-teaching, chunking, distributive practice, EL curriculum, Bedrock Curriculum, Direct Instruction Program, visual phonics, colored language, phonics, listening, materials, scaffolding, bridging, evidence-based research, explicit instruction, cultural sensitivity, retrieval practice with L2, imitation, structured and systematic syntax instruction, CASLLs program, consistency, commercially made materials, accommodations, adequate amplification, merge what you do with common core, home school connection, parent-teacher trust, organized, know goals, Saturday sign class, experiences with pictures from weekend, home and school connection	visual sandwich, concept sandwich, vocabulary development, engaging/meaningful, known to unknown, auditory highlighting, visual highlighting, modeling, imitation, expansion/extension, experiences, role-plays, use L1 to bridge L2, direct instruction, language rich environment, language breakdown, pre-teaching, re-teaching, intense speech and language, chunking, distributive practice, exposure, Bedrock Literacy Curriculum, Direct Instruction Program, Visual Phonics, Colored Language, Cottage Acquisition Scales for Listening, Language and Speech (CASLLS), commercially-made materials/school-based packages, vigorous, consistency, parent-trust	

Research Question 1

Six questions were asked to participants in order to gain an understanding of participants' knowledge regarding the d/DHH/EL population. Questions asked to each participant group were as follows:

1.) What do you know about the size of the d/DHH/EL population?

2.) What constitutes an individual as being d/DHH/EL?

3.) What characteristics are often discussed/seen in the d/DHH/EL population?

4.) What do educational placement options look like for the d/DHH/EL population?

5.) Language considerations come up with this population, what information or thoughts do you have regarding that?

6.) An interrelatedness exists between language, culture, and identity, what might that mean for this population?

Themes generated from responses included: magnitude, accuracies, and uncertainties regarding statistics of the d/DHH/EL population; disability- and difference-specific definitions; communication and comprehension; behavior and interaction with others; and background factors.

Magnitude, Accuracies, and Uncertainties Regarding d/DHH/EL Population Size

Participant groups were asked about the size of the d/DHH/EL population. A variety of responses were shared. These included: size, percentages based on geographic location, and also noted some uncertainty.

Preservice teachers. Preservice teachers acknowledged that the population of d/DHH/ELs was small but growing. Respondents reported "I know it's probably small, but it's

growing," and "I can guess that it's small." Preservice teachers also referenced the English learner population by saying it "is really big but…"

Inservice teachers. Inservice teachers described the size of the population as being influenced by geographic area. Furthermore, specific percentages were shared. One participant noted:

> Depending on the region of the state where you are going to be teaching in, is what the size of the population will be. Usually it's about 25% EL students. Um, mostly depends on if the area you're teaching in has like a refugee camp or if that area is set up to host families that are coming in as ELs.

Inservice teachers also described the population as growing and changing by stating "I've been in the field 30 years and its changed drastically."

Supervisors of d/DHH programs. Supervisors identified that the population of d/DHH/ELs is large and continuing to grow. One response was "There's a lot. It's increasing every day." A participant in the supervisor group commented on the difficulty distinguishing between d/DHH and EL, therefore, making it difficult to derive statistics by stating "It's sometimes hard to determine the need or distinguish what's EL and what's d/DHH."

Teacher education faculty. When teacher education faculty were asked about their knowledge regarding the size of d/DHH/EL population, most of the educators exhibited uncertainty, but shared specific information based on experiences and location. An estimate of the percentage was shared by one teacher education faculty member stating, "About 10-15% probably, maybe higher no lower than that." Two other teacher education faculty members described the size of the population as dependent on geographic location.

> Where I lived in Colorado, it's a small school district, they have over seventy languages spoken in school district. So even if you just look at that, what one person, one person, one person, you know that those numbers add up. So, in our in our deaf/hard of hearing program in where I live, it's over seventy percent.

> I would add that when I was classroom teaching, I taught in a suburb area close to a big city and in my preschool classroom, fifty to sixty percent spoke another language at home umm other than sign language and English like a totally different language so I would perceive that it would be pretty high.

Table 37 portrays responses across participant groups in an effort to determine similarities and differences in information shared regarding size by participant groups.

Table 37

Interpretation of the Size

Size	Preservice Teachers	Inservice Teachers	Supervisors of Deaf/Hard of Hearing Programs	Teacher Education Faculty
Small	X			
Geographic		X		X
Changing		X		
Increasing/growing	X	X	X	X

One participant group described the population as small. Two of the four participant groups indicated that geographic area contributes to the size of the population. Changing was a word used by one participant group to explain the d/DHH/EL population. All four participant groups indicated that the d/DHH/EL population is one that is increasing/growing. Inservice teachers and teacher education faculty members noted the geographic location influenced the size.

Disability- and Difference-Specific Definitions, Characteristics

Each participant group was to share about what constitutes an individual as being d/DHH/EL. All of the participant groups shared information. Many of the participant groups shared disability-specific and difference-specific characteristics.

Preservice teachers of the deaf. When preservice teachers defined the population, they indicated that these students were deaf and speak a language other than English, they did not get language for the first many years of life, or they were behind in language development compared

to native English learners. Some uncertainty of how to define these individuals was prevalent in the responses: "Umm if they identify as someone hard of hearing and then English learner if their first language at home is something other than English…generally." "It could also be if like they didn't get language for the first how many years of life. You could still be like an English learner if you're learning the language at an older." "Would it be like if you're behind what a normal second grader would have language? If you're like behind that would you technically be considered as an English learner."

Inservice teachers of the deaf. Inservice teachers defined d/DHH/ELs separately by stating that individuals who are d/DHH have hearing loss and individuals who are ELs are individuals who are learning a language besides sign language and have a second language in the home. They also spoke to some of the testing used to determine EL status.

> I know some districts consider them ELs if their home survey, home language survey has them as English language learners, but sometimes other cases it might be because of the Access Test, but if they're learning another language on top of English and sign, then they would be an EL.

Supervisors of deaf/hard of hearing programs. Supervisors discussed difficulties in distinguishing between d/DHH and EL because of the requirement of Els to self-identify. Evaluations for the purpose of the Individualized Education Plan (IEP) are used to determine if a student is deaf or hard of hearing and the home language survey is utilized to decide if a student is an EL.

Teacher education faculty. Teacher education faculty members believe that individuals who are d/DHH/EL use a language at home that is not English and have a hearing loss. Furthermore, they need amplification and have an etiology. Faculty members also commented on requirements for designation. In regard to ELs, there is federal legislation and there is a home

language survey. One participant stated, "…in the district that I was at, often times their ELL status was determined from the home language survey that went out." Another participant said:

> …So, we looked at this in a large group and decided that it was umm any learner who used a language umm other than English in their home and then was learning English at school or in the community or something like that who also had a hearing loss…

Similarities and differences among participant groups are portrayed in Table 38.

Table 38

Interpretation of the Criteria

Criteria	Preservice Teachers	Inservice Teachers	Supervisors of d/DHH Programs	Teacher Education Faculty
Speaks language other than English	X	X	X	X
Deaf/hearing loss	X	X	X	X
Without language	X			
Behind typically-developing peers	X			
Learning additional language besides sign		X		

Similarities and differences were noted in regards to what constitutes an individual as being d/DHH/EL. Similarities arose among all four participant groups related to speaking a language other than English and being deaf or having hearing loss. Differences arose among participant groups in regard to being without language, developing behind typically-developing peers, and learning additional language besides sign language.

Language Development, Socialization and Behavior, and Background Factors

Participants were asked about language development, socialization and behavior, and background factors. All groups provided information. The following sub-themes emerged: language development, socialization and behavior, and background factors.

Language development. Preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members described language development.

Preservice teachers. Characteristics described by the preservice teachers were closely linked to language development. Furthermore, the preservice teachers spoke to the delays and differences in d/DHH/EL language development. The preservice teachers stated: **"**delayed speech and comprehension," "they'll say the word like differently," "limited vocabulary," "just delayed language skills overall," and "Grammar structure like jumbled up. I mean if you're ASL and you're gonna learn English it may be harder to put in like…like morphology and all of that."

Inservice teachers. Language development concerns were shared by inservice teachers in regard to CALP, syntax, and codeswitching. Participants noted "Just because they are general language learners that they tend to mix up a lot of language… a full sentence in English couple words in Spanish and then full sentence in Spanish and then a couple words in English…"

> I see a big difference in like conversation communication so they might have to be able to hold a conversation in Spanish just fine and then you give them instructional language in Spanish and you see major gaps cause they don't have that vocabulary or they're not understanding those instructional concepts.
>
> …they have gaps in both languages… they don't have the basic vocabulary in their language…do you do teach both languages with the student or you try then ok which one are we gonna pick and stick with I mean that's kind of how I kind of feel.
> Inservice teachers also commented on some additional components that could potentially impact language development such as home-school disconnect and lack of qualified professionals.
>
> Not enough and not qualified role models in the wanted language and the American Sign Language. If the families don't have someone at the home that can uh keep the child moving forward and if there's not enough of a crowd or a class at the school and the educational staff that can get the kid keeping forward then there're no way for the kiddo to continue growth in the wanted language.

> …One of my students travels to the Middle East over the summer and then they come back they're in preschool so really confused about why aren't you understanding now what I'm saying to you...
>
> Uh during the IEP meetings the parents are sometimes upset that their children's their children aren't speaking Spanish and or English or ASL they don't know like they feel like they have to pick one they maybe prefer Spanish but the child is deaf so the child will prefer sign so hopefully you know they'll use all of them but most of the parents are upset and there's no role model…

Supervisors of d/DHH programs. Only one supervisor commented on characteristics of the population, stating "one common characteristic that we often see is delays in the development of L1 so the language spoken in the home in addition to delays in English."

Teacher education faculty. Characteristics of this population shared by teacher education faculty, included language disconnect between home and school, delayed vocabulary, codeswitching, and confusion of two manual languages.

> I have a friend in Atlanta who has hearing children, but they go to a trilingual school. So, I think that one of the things I think about when I think about the characteristics of that multiple languages for a period of time anyway…that there's a delay in vocabulary development so there's delays. But, if done correctly and I don't know what correctly is in our world but without hearing loss that those gaps and delays sort of catch up at some point. So, I think our tricks are figuring out how to take advantage of what should be happening…
>
> I think another characteristic that you tend to see is codeswitching. And so, going in and out of their native language their not native language…I think it becomes even more complicated when you're introducing other manual languages. You know, I've had students that come from other countries and signing African sign language and are now confusing the two manual languages. So, it ends up with a great deal of confusion and yeah…

Socialization and behavior. All participants were asked about socialization and behavior within the d/DHH/EL population. Preservice teachers, inservice teachers, and teacher education faculty members shared information related to socialization and behavior. The information is described below.

Preservice teachers. Preservice teachers shared information regarding socialization when asked about characteristics of the d/DHH/EL population. Preservice teachers spoke primarily about how language is used and interactions with peers. Some of the comments included: "pragmatics, how you're using it," and "they might have trouble…umm interacting with peers or they can't communicate well with them."

Inservice teachers. Information shared by inservice teachers focused primarily around behavior. Behavioral issues were not only student specific, but also centered around their families and their beliefs.

> Um we have an issue with um the families and the students not being willing to use technology. Hearing aids and um sign language and things like that are very resistant to using them outside the school or using them at all um even though we try to educate them about how important they are it's it's cultural um they don't want their child to have this device or they don't understand why it's important um we struggle with that often.

Teacher education faculty. Teacher education faculty shared characteristics related to both socialization skills and behavior. Participants noted, "…but certainly the languages that you use and how socially use those languages so bringing in BICs and CALP understanding how language is used is probably more important than which language you're using." Other participants stated the following in regard to behavior: "shyness…so sometimes the behavior issues escalated depending on the understanding, the level of understanding and also with low self-esteem," and "We also talk about behavioral deficits that are umm are contingent upon the inability to communicate at home." One participant stated:

> I see confusions first…because all of the students actually use ASL as well and their friends do not sign at all…socially looks like very awkward and inappropriate because they do not get like incidental learning as a hard of hearing or deaf…at the same time they do not understand all the English joke… that impacts a lot on their social skills in life.

Background factors. Participants were asked to provide information on background factors. Inservice teachers and teacher education faculty members spoke about background factors in regard to characteristics of individuals who are d/DHH/ELs. The information obtained is provided below.

Inservice teachers. Inservice teachers spoke about late identification in d/DHH/ELs. Individuals who are late identified bring that background factor to the classrooms they are entering.

> …what I've noticed with some of the students that I work with is that um they've been lately identified because of cultural backgrounds they there wasn't awareness that something was wrong and so until they've come to school then they're identified.

Teacher education faculty. A participant in the teacher education faculty participant group spoke to several background factors that are characteristic of individuals who are d/DHH/ELs.

> …and so, we came up with multiple characteristics that they may have. So the influence of this diversity may be related to your own age, your background, you umm SES, your hearing loss, your ability to sign, your parents…looking at your immigration status, how long you've been in the United States, the language your siblings speak, the language your grandparent's speak. So, I mean I don't know that you can identify a characteristic because every child is so different I think.

Table 39 portrays the characteristics shared by each participant group. Similarities and differences across participant groups are reflected below.

Table 39

Interpretation of Characteristics

Characteristics	Preservice Teachers	Inservice Teachers	Supervisors	Faculty
Language Development				
Delayed speech	X			
Delayed language	X	X	X	
Delayed vocabulary	X	X		X
Comprehension	X			

Table continues

Characteristics	Preservice Teachers	Inservice Teachers	Supervisors	Faculty
Difficulty with syntax	X			X
Language disconnect between home and school		X		X
Lack of qualified professionals		X		
Inconsistent language access		X		
BICs and CALP		X		X
Codeswitching				X
Socialization & Behavior				
Behavioral concerns		X		X
Resistance to technology and modalities (d/DHH)		X		
Emotions: shyness, low self-esteem				X
Background Factors				
Demographics: age, background, SES, immigration status				X
Hearing loss				X
Late identification		X		

When looking specifically at language development, overlap among all four participant groups did not occur in one specific area, however, three of the four participant groups discussed delayed language and vocabulary. Two of the four participant groups commented on difficulty with syntax, language disconnect between home and school, and concerns with BICs and CALP. One of the four participant groups commented on delayed speech, delayed comprehension, lack of qualified professionals, inconsistent language access, and codeswitching. When thinking about language broadly, delayed language, delayed vocabulary, difficulty with syntax, and BICs and CALP all constitute language, therefore, all four participant groups spoke to concerns with language when discussing characteristics of d/DHH/EL.

Placement by Types/Needs, and Involving Professionals

Participants were asked to describe the placement options for this population and the responses indicated uncertainty about what is best. For example, all sign, all oral, EL, or d/DHH were all given as responses. Some participants described having bilingual classrooms while

others mentioned EL itinerant services. Qualified educators were also identified as being essential to placement options.

Preservice teachers. Preservice teachers primarily focused on three placement types for d/DHH/ELs. They mentioned self-contained classrooms, mainstream settings, and oral schools. One participant also commented on pull-out services being an option.

Inservice teachers. Inservice teachers spoke about the challenges in determining correct placements which connects to language being considered and utilized for students.

> …what is the correct placement because we don't know if providing all this sign, all this oral you know this um language focus in the English language is ah the perfect place for them and then you don't see the growth. But then we pull them back into ELL, we remove the sign because we think maybe supporting them in the in their home language, we think supporting them in their English acquisition is better and then they regress because they're removing the support in their original. There's no true collaboration between both groups yet. There's not true knowledge on how one supports the other and there's no teamwork in that to support the child to grow in all areas. And unfortunately, right now, there's no way to support their home language because none of none of us can speak every language every child brings into our classroom...

One participant further discussed circumstances in which only one service is provided or considerations among the primary service.

> …if the child is identified with a hearing loss and then they're also from a bilingual or an ELL home, um it's automatically assumed that the ELL or the bilingual department has priorities over this student. So, they're not really looking at each individual student. They're looking at a second language is spoken at home they're automatically ours…So it's like no, we need to look at this child in particular and see what is the true mode of communication? That may take some time to also figure out too because when they're young you really don't know what their language is.

Some participants spoke to their districts and experiences and explained their situations as fortunate. Different placement options and qualified professionals were part of these experiences. One participant spoke to an itinerant model,"…we do uh an itinerant kind of ELL teacher who does pull-out and does consultation with the teachers uh mostly it's uh delivery done in English." Other participants stated the following regarding placement.

> …They had 3 staff members in the room, not including me, who were fluent in all 3 languages and um one of them was a deaf adult and one of them was a native Spanish speaker, another one was a native English speaker so they had like all the great things they had a whole staff behind them that would do IEPs, evaluations in all 3 languages and um but that's their needs there.
>
> …we have um K-3rd grade bilingual classrooms in almost every school, every elementary school. Um so a lot of our kids wind up going to the bilingual classrooms. And then we're also lucky cause we have um bilingual speech um bilingual speech path that we do cotreat a lot with them to help get the English and then the Spanish.
>
> …we have Spanish classes starting at preschool and they speak Spanish primarily till 3rd grade and then we switch over to English…if they're not making success then we do look into putting them into an English um hearing impaired program too so that provide them with more language supports in the new language of English.

Supervisors of deaf/hard of hearing programs. Supervisors of deaf/hard of hearing programs talked about educational placement options varying widely including itinerant, self-contained, Spanish speaking itinerant, dual language programs supported by itinerants, d/DHH programs, and EL consult.

Teacher education faculty. Teacher education faculty described several educational placement options. The options included a continuum of services: self-contained, EL or ESL services, school for the deaf, elementary school with itinerant services, and resource room. Another participant described that up until grade three these students are eligible for EL or ESL services. Other options were classes with EL students if they have mild to moderate loss, if they have a profound loss they are in a self-contained classroom and served by deaf educators and in the general education with service provisions. Participants reported:

> For me they were in a self-contained deaf/hard of hearing classroom and um I have my ESL endorsement and so I got a lot of training which ironically, I thought was very similar to the training that we get in deaf education because we're kind of experts in language. But it really helped me to understand that BICS and CALP…and that helped me to better umm better understand them. It also helped me that when I then had hearing students in my class who spoke a different language like for example it was a preschool for all so, I had kids that came in speaking native Spanish. I was signing and talking at the same time. My Spanish speakers would sign to me before they would ever speak

> English. And so, I saw the power of American sign language and how it is so conceptual. But it's kind of this bridge between all of these different languages whatever they are. That sign language piece really is um an asset, but not everyone thinks that.
>
> …The home language is often determined by that parent survey in many states. That parent survey also dictates if children get to have EL or ELS services which may or may not be appropriate for many of the deaf and hard of hearing students…
>
> …we have three educational placements for deaf/hard of hearing students. So, one is school for the deaf and the second is just elementary school with an itinerant teaching and then the third one is kind of um resource room but it's not exactly like resource room. It's more inclusive of hearing services…

Table 40 reflects the placement options that were discussed by each participant group for individuals who are d/DHH/EL.

Table 40

Interpretation of Educational Placements

Placements	Preservice	Inservice	Supervisors	Faculty
Self-contained (d/DHH)	X	X	X	X
Mainstream	X			X
Oral schools (d/DHH)	X	X		
EL class		X		X
Itinerant			X	X
EL consult			X	X
School for the Deaf				X
Resource Room				X

Overlap in setting type arose among all four participant groups regarding self-contained settings. Two of the four participant groups spoke about mainstreaming options, oral schools, EL settings, itinerant, and consult. One of the four participant groups spoke about schools for the deaf and resource rooms.

Processes, Goals, and Outcomes

When participants were asked to discuss language considerations several topics came up centered around processes, goals, and outcomes for individuals who are d/DHH/EL.

Processes. Preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members spoke about the process concerning language considerations.

Preservice teachers. Preservice teachers brought up the considerations around languages being used at home and school. One participant said, "well I guess if like they're at home and if like they don't speak English and at school we're teaching them English is that gonna help them out?"

Inservice teachers. Inservice teachers also spoke to the concerns of where we place students who are d/DHH/EL in an effort to foster communication with everyone versus isolating them because of chosen communication modality.

> …we've tried to go with what the family is going to support…we put a ELL student in a deaf and hard of deaf classroom they learn sign language. When they can't communicate with their family at home and they sit there by themselves in their room and they tell you it's very lonely. I can't talk to my family…sometimes they have like a sibling that's also hearing impaired and then they can talk to them but nobody else.

Supervisors of deaf/hard of hearing programs. Supervisors spoke of the need to identify primary language and subsequent determination of services with those considerations in mind. One participant stated the importance of "determine what the primary language is." Participants also noted the need for determining language abilities expressively, receptively, and written.

> … identify their primary language whether it's ASL or Spanish or whatever their language is and then provide supports in primary language vocabulary development, language development and if they have a secondary language if they are in a deaf/hard of hearing class you would provide language using sign language as well.

> …during the evaluation process making sure that you're evaluating them both under the deaf/hard of hearing and their language so sometimes we will ask for a bilingual person to do Spanish or if we have student from Guatemala move in and they said they needed Spanish sign language but well it turned out they didn't have any language at all but we

had to kind of rule that out so not just dismissing our student who was without the language there was a checked box on the survey.

Teacher education faculty. Teacher education faculty spoke to that need for considerations to be made beyond school. It is essential to consider student needs at home and how school is promoting or diminishing the disconnect between the two. Participants stated:

> …it's unfortunate that we aren't honoring their home languages more…either the family decides for them or the team…this child is going to be a signing child or this child is going to be exposed to total communication even though their home, their upbringing, their culture, their everyday life is in a totally different language. I think that's really sad that we don't have a way to be more culturally responsive.

> …culture is transmitted primarily through language…so if we deny these children the opportunity to have access to any part of the language that they could have at home we're also denying them part of their cultural heritage, their family values, their family beliefs, access to their extended family members. But I do believe um that professionals play a huge role in helping families determine what they should and shouldn't do. And so, if you have a professional early on who encourages you to continue to speak or sign your home language, I think that parents are more willing to do that. But unfortunately most professionals see it as a um negative especially for children who are hard of hearing because of the linguistic input not always accessible. But I think we many more opportunities for students to have accessible linguistic in more than one language and there are a few research studies that show that it is possible, and the children are successful, but only if there is parent and professional support.

Goals. All participants were asked about goals for the d/DHH/EL population. When asked to share about language considerations, preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members spoke about goals. The goals are provided below.

Preservice teachers. Preservice teachers spoke to the need for balance in language considerations for this population. One participant stated:

> If they speak another language at home, you need to consider the balance of how much…how much Spanish are we using at school and how much English? Are they getting any English at home that could help them improve? Because you don't want them not to be able to communicate with their family, but they need to be able to communicate at school too.

Inservice teachers. It is essential to determine what is best for the family and what the family wants for their child. Participants responded that, "we consider the families willingness to learn sign or American sign language," "depending on the age of the student if they're in high school they're able to make the decision also," and "trying to consider what's best for that family and that student um for lifelong what's, what's going to benefit them and also creating that base language."

Supervisors of d/DHH programs. Supervisors shared information specific to vocabulary, as well as the need to look "at the bigger picture" for these students.

Teacher education faculty. In the teacher education faculty participant group, information was shared about the difficulty in determining the balance between X and Y.

> …find a balance, to be honest, that yes of course I respect their culture and their home environment with that specific language, however, but that I see the delays. Umm like accumulated every day without home support so that part is really achy.

Outcomes. Participants were asked about outcomes. Inservice teachers were the only participant group that shared information related to outcomes when discussing language considerations. The information provided by the inservice teachers is listed below.

Inservice teachers. Inservice teachers spoke to the ultimate outcome for these students. We need to be sure that they communicate at home and school, therefore, considering how to make that happen is pertinent. One participant noted: "making sure that they're strong in a language and they're going to facilitate that at home and school."

Similarities and differences across language considerations shared by participant groups are reflected in Table 41

Table 41

Interpretation of Language Considerations

Language Considerations	Preservice	Inservice	Supervisors	Faculty
Processes				
Language of instruction	X	X	X	X
Primary language development			X	X
Vocabulary considerations			X	
Goals				
Balance	X	X		X
Family choice		X		
Outcomes				
Strong language base		X		

All four participant groups commented on language instruction in terms of a necessary language consideration with the d/DHH/EL population. Two of the four participant groups spoke about the need to identify primary language development prior to making language considerations. One participant group spoke specifically about vocabulary. When thinking about goals for the population, balance across language was a recurring topic among three of the four participant groups. Family choice was also shared as a necessary consideration by one participant group. Outcomes did not appear to be a strong consideration in the comments made within participant groups, but one participant group spoke to the fact of striving towards a strong language base, whatever that might be.

Cultural Responsivity

When asking participants to discuss the interrelatedness that exists between language, culture, and identity, several considerations regarding culture arose. The need to be culturally responsive in practices and considerations is essential but is even more critical with more diverse populations.

Preservice teachers. Preservice teachers spoke to the link to certain cultures based on characteristics such as deafness. Furthermore, they spoke about culture in general and how that relates to their identity.

> …when you take them away from their family and teach them English only and they don't learn any of their home language, you're taking them away from their culture because that their culture at home and then they can't identify with their family.

Inservice teachers. Fitting into a variety of molds versus one was a topic of discussion with the inservice teacher participant group. They described the need to provide opportunities for these individuals to merge different cultural groups. One participant noted that, "I think a lot of the d/DHH and ELs have a lot in common because they're both trying to learn a language to fit into their peer group." Another participant stated, "I think we're missing a great community where we could support the deaf culture, their personal culture, and the American culture all in one."

Supervisors of d/DHH programs. Supervisors spoke to connectedness and how it impacts student success. Comments specific to home-school disconnect and integrating culture into the classroom were discussed. A participant said, "I think it's really, you know, you have to look at each culture individually and what their perceptions are." One participant gave the example that they had

> …a student come from the Congo as an 8th grader profoundly deaf and had absolutely no language. His family was French, but he had no language. So, we've been working on ASL and now trying to do English written language umm but then now he is a senior in high school and he's like I can't talk to my family I have no way so now we're teaching him French. I mean we have plenty to work on, but it was a priority for him to learn French so now we've added French to his day.

Teacher education faculty. Family connectedness was a topic discussed by teacher education faculty. The need to feel supported at both home and school was thought to be impactful to student success. One participant stated:

> I think it goes back to that kind of whole theme we've had throughout this conference about that importance of culture and development and how that shapes who you are and how you exist in the world and connectedness to family and all of that…

Comparisons among participant groups are reflected in Table 42.

Table 42

Interpretation of Culture, Language, and Identity Interrelatedness

Interrelatedness	Preservice	Inservice	Supervisors	Faculty
Link to culture groups	X	X	X	X
Home connection		X	X	X
Cultural aspects incorporated into classroom			X	
Cultural perceptions		X	X	

All four participant groups spoke about individuals aspiring to fit into cultural groups and maintain their cultural values. Three of the four participant groups spoke about the importance of bridging the home and school connection. One of the participant groups spoke about the need to incorporate cultural practices into classroom and activities and two groups spoke about considerations that come with cultural perceptions.

Research Question 2

In an effort to understand concerns and challenges of working with the d/DHH/EL population, participants were asked three questions. The three questions asked were:

1.) What do you feel are some of the biggest challenges in meeting the needs of d/DHH/EL population?

2.) What are your primary concerns related to meeting the need of the d/DHH/EL population?

3.) In your experiences with this population, what has been challenging and/or concerning?

The themes generated in response to the interview questions were that a starting point is needed, language barriers exist, and the overall system needs to be considered.

Starting Point

All participants were asked to discuss the starting point for instructing the d/DHH/EL population. Preservice teachers and inservice teachers shared information on where to begin when instructing individuals who are part of the d/DHH/EL population. The starting points are described below.

Preservice teachers. Preservice teachers noted that a concern or challenge they faced was in determining the starting point. Participants said, "yeah I guess one of my concerns is like how are we gonna close…a gap between hearing peers and them," and "I'm scared of accidentally widening the gap too." Other examples given by participants included:

> You can't teach them that the content that they should be learning. Like teaching them about the Declaration of Independence and you're using all these terms that they have no idea, so you have to like start from the very beginning and work your way up.

> …I always go back to that thing where I was teaching the nut. Like he had no idea what I was talking about, He was like I don't know what that is. So, I had to back up and say well this is what it is because you've never heard that before so let's back up and restart so.

> …I was thinking like how you can't teach like language can't teach language so you can't just keep saying words and hope that they'll get it…what's the sign for true? True (signs it) and real. Well like what makes something true well it's a fact. Well what makes it a fact? Well it's real. I was going in this like cylindrical circle and I was like oh my god we're never going to be able to do this.

Inservice teachers. An inservice teacher shared her concern with her own ability to properly educate individuals who are d/DHH/EL indicating uncertainty with where to begin. The participant stated:

> … I think one of my big concerns is when I get a student that speaks another language umm I don't know how well I'm providing my services and if what I am teaching them is actually getting through to them if they're understanding it or sometimes I feel like I have to change my materials or change my way of teaching and sometimes I don't feel as if it is as good as it would be for another student who is English speaking just because I can't speak that language and so umm I guess the primary concern is I don't even know if I'm good enough to be teaching the student because I don't know their language.

Language Barriers

Language barriers were discussed by all participants. Preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members discussed language barriers. The barriers are described below.

Preservice teachers. Language barriers, specifically the language used between the student and teacher, were a concern for preservice teachers. Additionally, delays that are a result of language barriers were another concern. One participant said, **"**If I don't speak the language that they speak at home, how am I going to teach them?" Another participant noted:

> …There was a girl she could read a whole passage in English and then she's like a 5th grade reading level but she's not…if you say "well what did you read? Tell me the main idea or the characters or anything" she doesn't because she is just memorizing the words. So, language comprehension and what questions do I ask to make sure that they're actually getting the content and actually understanding the language and what it means.

Inservice teachers. Inservice teachers shared about language barrier concerns that make necessary conversations and processes difficult. For instance, accessibility to resources, understanding processes, communicating and collaborating with families. A participant said, "…I think one of the hardest things to do is to provide resources for families… it has to be in their native language." Another participated noted:

> Even understanding the identification process. You know your child fails the newborn hearing screening you need to take them to the dr. well why? Then you take them to the ENT, then the audiologist they just don't understand the process. Again, facilitating that. Making appointments in their native language or finding a doctor that can explain in their native language it's just very difficult it's hard to ask questions because their language isn't good enough asking the doctor questions they don't understand what the doctors saying it's just very difficult and so umm getting them to come to meetings so you can explain in person vs trying to explain via email or on the phone or through a note umm playing tag with an interpreter trying to get them to communicate. I have schools that just say oh it's just not worth it we're gonna leave it alone and next time we see the dad we will fix it. Well I'm like his annual review is 6 months away we're just gonna leave it because they speak Greek and we can't find a Greek interpreter.

Supervisors of d/DHH programs. Language determinations continued to be a topic of discussion with the supervisors of deaf/hard of hearing programs in an effort to reduce language barriers. One participant said, "…multiple languages and communication modes is probably the biggest challenge and the idea that uh the language and communication mode the student may be learning in school is not a match in the home…" Other participants said:

> I think for ELL kids one of the biggest challenges is filling that hole up with what they've missed from incidental learning because for them its times two. Incidental learning of whatever language or conversations are going on in their home that we don't know about and hearing English speaking so its times two incidental learning gap.
>
> One of my concerns or I run into is trying to um convince people or explain to them that umm the kind've old way of um of trying to have the parents speak English as best they can…no we need you to use your language beautifully, perfectly and that needs to be the base…I've heard at meetings you know umm people to say to the family make sure you use as much English as possible and I want to peek in and say well if you're really really good at it that's the kind of thing so some kind of misconceptions how to best the parent and for us but how to communicate with them in which language and which situation.
>
> …the assessments and the state assessments especially with our ELL student who are d/DHH. The state assessment is four different parts and two of the parts are listening and speaking umm and so the accommodations on the ELL assessments are not great for our students so even when we're making strides with them they cannot pass the state assessment or we can't get a true understanding of their levels in any language because the state assessment or assessments that we have don't address the needs that we have with the students.

Teacher education faculty. Teacher education faculty focus on the language barrier aspect from the standpoint that professionals do not know the language abilities of students due to assessment challenges.

> …I think another concern too would be understanding the home language and what um fluency for lack of a better word that child has both, expressively, receptively. Oftentimes, we know they speak Spanish at home and we assume well they can't hear so they don't speak it. But oftentimes these kids come in with a pretty solid at least receptive foundation in that other language and if I knew that he could identify his colors receptively in Spanish that would really help me to bridge the gap and I don't think we're getting and we're not given the information because the assessments don't exist. Or maybe the parents don't know. But umm I think we just assume that they just don't know. But I think our kids have a lot of other capabilities than we're really aware of.

> …When we have a new student, we start with assessment a list of auditory and speech assessment that we do, but then when when the child speaks a different language in there, we don't know actually how to do those how to measure those parts? Umm in our school district, we have a multicultural worker, but the multicultural workers are not professionals in um conducting any assessment…

System

Participants were asked about the system. Inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members spoke about the overall system. The systems are described below.

Inservice teachers. Culture was brought up again regarding concerns and challenges for the d/DHH/EL population as well as lack of qualified professionals. Inservice teachers discussed this in terms of child and family needs, therefore, speaking to the overall system. One participant noted that challenges with "finding a qualified interpreter." Other participants said:

> …I think another big challenge is our own lack of understanding of their culture. I went to a cultural presentation on the Hispanic culture and learned a lot about like the maternal grandmother is the one who has a lot of say in the family and so I had a student who saying she wasn't allowed to wear her hearing aids at home and so her parents were fine with her wearing them but it was her grandma who didn't want her to wear them. It was hard for us to understand why is your grandma gonna make your decision, but it's a cultural thing for them. Or we talked about how sometimes our families can't come to events or sign class because family dinner is so important to them and they have their whole extended family at the table one night a week or five nights a week and there these cultural things that are their life and we are not aware of that or we choose not be aware of that.

> …family piece is so important, the populations I work with are Hispanic or Asian and you're right the maternal grandmother calls the shots and they don't want little boy to wear hearing aids because he's supposed to be perfect…

Supervisors of d/DHH programs. System issues that directly impact the child and/or the family and begin at birth and span throughout life were prevalent in the supervisors' comments. Students need to learn advocacy and seek out available resources. Participants said:

> …getting that student uh to have enough to be able to compete to get a job…be independent to transition to something cause likely their English skills are below so to teach them the skills they need to be as independent as possible.
>
> …we have like our same student from the Congo trying to figure out how to get his driver's license has been really difficult because his written language skills are at like 1st, 2nd grade level he knows the content, but he can't pass that test to get that permit which has been very very difficult for things that are gonna lead to adult life needs for him.
>
> …a lot these kids aren't in attendance as much as some of our other students because they go home to visit family…so sometimes they are missing a month at a time of school. We had a student this year that didn't even start until the middle of October and was already significantly behind and had a lot of missed time so trying to help people understand the need {SIC} to prioritize school. But I don't know what you do about that either because it's equally important that they see their family and they experience their culture so that's a challenge.
>
> It's also been challenging to tease through umm what is causing the problem is it the hearing loss is it the language barrier and then since language and hearing loss are both kind of exclusionary factors when we suspect that there's an additional disability maybe a specific learning disability or something and trying to figure out is it or and it's very difficult to tease through that sometimes.

Teacher education faculty. Teacher education faculty brought culture back into the conversation of challenges and concerns and also spoke to lack of qualified professionals and the need for strong relationships. Participants said, "…understanding the culture…a big challenge is making the connection to parents umm and to truly understand that you have their best interest at heart. That you're not trying to disassociate their child from their culture…," and "it's important that we're making sure that teachers are removing their implicit bias." Other participants stated:

> …we do not have many qualified teachers, and it's hard to find qualified teachers…when you hear a component is added teachers are more confused and most of them look like they have additional challenges because we when we use our assessment tools, it's not right, and it's totally unfair. But our teachers are not ready, not prepared yet to teach this population and they do not understand they don't have a good understanding of this population because it's just happening right.

Similarities and differences among challenges and concerns are portrayed in Table 43

Table 43

Interpretation of Challenges/Concerns

Challenges/Concerns	Preservice	Inservice	Supervisors	Faculty
Starting Point				
Known to unknown	X			
Concerns regarding achievement gap	X			
Don't know what to do/what's right	X	X		
Language Barriers				
Language disconnect	X		X	X
Comprehension	X			
Inadequate resources		X		
Challenges with process		X		
Challenges with contacts		X		
No incidental learning			X	
Inadequate assessments			X	
System				
Understand culture/ Teacher cultural awareness			X	X
Student self-advocacy			X	X
Career readiness			X	
Parent education/advocacy			X	
Early intervention			X	
Inconsistent attendance/transient			X	
Root of challenges			X	
Lack of qualified professionals		X	X	X

Inconsistencies regarding challenges and concerns are reflected in Table 43. One participant group noted the following challenges/concerns: moving from known to unknown, concerns regarding the achievement gap, inadequate resources, challenges with processes and making contacts, incidental learning, inadequate assessments, career readiness, parent education and advocacy, early intervention, inconsistent attendance and transient, and determining root of challenges. Concerns and challenges that arose among two of the four participant groups were not knowing what to do or knowing what is right, the need for cultural awareness from the teacher, and student self-advocacy. Information regarding concerns and challenges in which

overlap among three of the four participant groups occurred was concerning the language disconnect and lack of qualified professionals.

Research Question 3

To determine recommended interventions of participant groups, the following questions were asked to each participant group:

1). To aid in literacy and language development, how would you teach students who are d/DHH/ELs?

2). What are specific teaching strategies you would utilize primarily with this population?

3). Is there an intervention package you would suggest using with this population? If so, what is it and why?

4). In your experiences with this population, are there strategies or interventions that you have utilized that have been successful?

The themes that emerged from the responses to these questions were teaching strategies/techniques, curricula, and structure.

Teaching Strategies/Techniques

Participants were asked to describe teaching strategies and techniques. Preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty members shared teaching strategies/techniques. The strategies and techniques are described below.

Preservice teachers. With regard to teaching strategies utilized, preservice teachers shared a variety of strategies. The strategies included visuals, repetition, auditory sandwiching, visual sandwiching, concept sandwiching, knowing how to describe a word, vocabulary, auditory highlighting, visual highlighting, modeling, imitation, expansion, and extension.

Inservice teachers. Strategies shared by inservice teachers included visuals, role play, exposure in both languages, direct instruction, trips, wordless books, vocabulary around the room. Experiences appeared to allow for more detail in one participants response:

> …I think it's really important to look at what experiences the kids have had. I've had students who have come from an orphanage in another country and they never left the four walls so you give them a math word problem about how they're going to go shopping and they gotta look at the sales tax and we have a coupon for 20% off. He's never been to store and never had to think about that so on top of the math problem he's having to look at all this social stuff he hasn't seen before so breaking that down.

Supervisors of d/DHH programs. Supervisors of deaf/hard of hearing programs shared an extensive list of strategies to use with the d/DHH/EL population. The strategies included were visuals, modeling, labeling, language rich environments, breaking down language, repetition, preteaching, reteaching, chunking, rephrasing, distributive practice, direct instruction, manipulatives, and exposure.

Teacher education faculty. Teacher education faculty did not name a variety of strategies, but instead spoke to broader categories of strategies such as strategies used in deaf education. One participant spoke to the importance of meaningfulness in saying, "…everything they do has to be meaningful…they're going to communicate when they have a reason to communicate…" Another participant explains the similarity to deaf education teaching strategies/techniques in saying:

> I think a lot of the strategies that I used are very similar to those that we're using with just in our deaf ed classroom. I mean, lots of repetition and modeling and visuals. Lots of acting out oftentimes doing lots of gesturing umm because gesturing is kind of universal and yeah, I think some of those were like my go to strategies.

Another participant also noted that they use "lots of skits, dramas and acting because it really helps to get students engaged in the learning."

Curricula

Participants were asked to describe the curricula for this population. Information regarding curricula was shared by supervisors of deaf/hard of hearing programs and teacher education faculty members. The curricula are described below.

Supervisors of d/DHH programs. Individuals in the supervisor participant group shared different curricula they have utilized in their programs with the d/DHH/EL population. Curricula utilized included Bedrock Literacy Curriculum, direct instruction program, direct instruction program paired with visual phonics and cued speech, and colored language. One participant also stated the use of EL curriculum, "we've adopted some ELL curriculum actually for use with all of our students and it has more visuals embedded in it and it keeps the language more simplified and focuses on more real functional content first."

Teacher education faculty. Teacher education faculty spoke to one specific criterion-referenced document used by teachers of the deaf known as the Cottage Acquisition Scales for Listening, Language, and Speech (CASLLS, year). They also spoke to the use of commercially-made materials and school-based intervention packages but did not provide further detail on those materials.

Structure

Participants were asked about the structure of strategies and interventions. Preservice teachers, inservice teachers, and teacher education faculty members spoke about the structure of interventions. They are described below.

Preservice teachers. A participant in the preservice teacher focus group elaborated on the structure of the strategies and interventions used for the d/DHH/EL population. One participant noted:

> Just like vigorous. If you don't do this at home and the parents don't do anything at home, nothing will get done cause like they spend they only have like 7 hours, 8 hours at school and the rest the time is at home they'll just lose it so easily.

Inservice teachers. Inservice teachers shared information regarding the importance of the approach in addition to the teaching strategies/techniques. A participant noted:

> …the best package is collaboration with all your team—work together you can't do it independently even in the field there's so many that make the community and it takes a village its gonna take the ELL community, the specialist and a bilingual, it's gonna take everybody from past experiences and its definitely gonna take the parents and sometimes that's the difficult component but it takes all of them and that's the best intervention you can put in place because there's not one way.

Teacher education faculty. Parent trust was viewed by a teacher education faculty member as a key intervention component. She stated that when asking the parents about getting an interpreter they stated the following, "…no, I do not want to have that interpreter because that interpreter adding too much other information from her experience, (name) you just tell me slowly because I trust you…" Consistency was also noted as being key in the success of individuals who are d/DHH/ELs:

> …I feel like almost any intervention strategy is good if you stick with it, right?...Instead of just one intervention plan it's kind of like a road map for our kid and I think if we could develop that early on and each teacher would follow that for that kid that might be an idea.

Table 44 displays the similarities and differences regarding strategies/techniques, curricula, and structure as addressed by each participant group.

Table 44

Interpretation of Strategies, Aids, and Interventions

Strategies/Aids/Interventions	Preservice	Inservice	Supervisors	Faculty
Strategies/Techniques				
Visuals	X			
Repetition	X			
Auditory sandwich, visual sandwich, concept sandwich	X			

Table continues

Strategies/Aids/Interventions	Preservice	Inservice	Supervisors	Faculty
Vocabulary development	X	X	X	
Engaging/meaningful	X			X
Known to unknown	X			
Auditory highlighting, visual highlighting	X			
Modeling	X		X	
Imitation	X			
Expansion/extension	X			
Experiences		X	X	
Role-plays		X		X
Use L1 to bridge to L2		X		
Direct instruction		X	X	
Language rich environment			X	
Language breakdown			X	
Pre-teaching			X	
Re-teaching			X	
Intense speech and language			X	
Chunking			X	
Distributive practice			X	
Exposure			X	
Curricula				
Bedrock Literacy Curriculum			X	
Direct Instruction Program			X	
Visual Phonics			X	
Colored Language			X	
Cottage Acquisition Scales for Listening, Language, and Speech (CASLLS)				X
Commercially-made materials/school-based packages				X
Structure				
Vigorous content (Saturday sign, capturing weekend experiences)	X	X		
Consistency				X
Parent-trust				X

Strategies mentioned that were unique to one participant group included visuals, repetition, auditory sandwich, visual sandwich, concept sandwich, known to unknown, auditory highlighting, visual highlighting, imitation, expansion/extension, use L1 to bridge L2, language rich environment, language breakdown, pre-teaching, re-teaching, intensive speech and

language, chunking, distributive practice, and exposure. Strategies that were shared among two participant groups included engaging/meaningful, modeling, experiences, role plays, and direct instruction. Three participant groups shared vocabulary development as being an important strategy/technique. All of the curricula that arose were unique to each participant group. In regard to structure, vigorous content was shared by two participant groups.

Chapter Summary

Members of each participant group brought various ideas to the discussions based on their experiences. Similarities and differences arose among participant groups. Inconsistencies among participant groups confirmed that uniform understanding of knowledge, concerns, and strategies for individuals who are d/DHH/ELs is lacking. Similarities that arose among participant groups demonstrate that through experiences and trial and error, consistent information and some successful strategies have been gathered.

CHAPTER V: DISCUSSION

The purpose of this research study was to determine (a) what knowledge preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for d/DHH education have about the population of d/DHH/EL, (b) what primary concerns each of those groups have about meeting the needs of students who are d/DHH/EL, and (c) what strategies are recommended by teachers of the deaf for working with students who are d/DHH/EL? Qualitative interview data were gathered through focus groups. In this chapter, I provide (a) interpretation of the findings, (b) implications for preservice, inservice, supervisors, and faculty members, (c) recommendations for future research, (d) limitations, and (e) summary and conclusion.

Interpretation of the Findings

Focus groups were conducted using preservice, inservice, supervisors, and faculty members. In total, 70 people participated in the study. The participants included seven preservice teachers, 34 inservice teachers, 23 supervisors, and six faculty members. These populations were chosen to see what knowledge, concerns, and strategies were identified and utilized by each participant group. Themes generated from educator interview data are displayed in Table 45. Further analysis shows educator considerations for education, culture, strategies, and communication in their dealings with d/DHH/EL students.

Table 45

Themes Categorized by Research Question

Research Question	Themes
What knowledge do preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for the d/DHH education have about the population of d/DHH/EL?	Magnitude, accuracies, and uncertainties; disability-specific and difference-specific definitions and characteristics; language development, socialization and behavior, and background factors; placement by types/needs and involvement of professionals; and processes, goals, outcomes, and cultural responsivity
What are the primary concerns each of these groups have about meeting the needs of student who are d/DHH/EL?	Starting point, language barriers, system
What interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL?	Strategies, curricula, structure

Themes were further categorized in an effort to create a more concise package to consider when moving forward with this population of learners. Figure 8 displays the way in which the themes in Table 45 were further categorized.

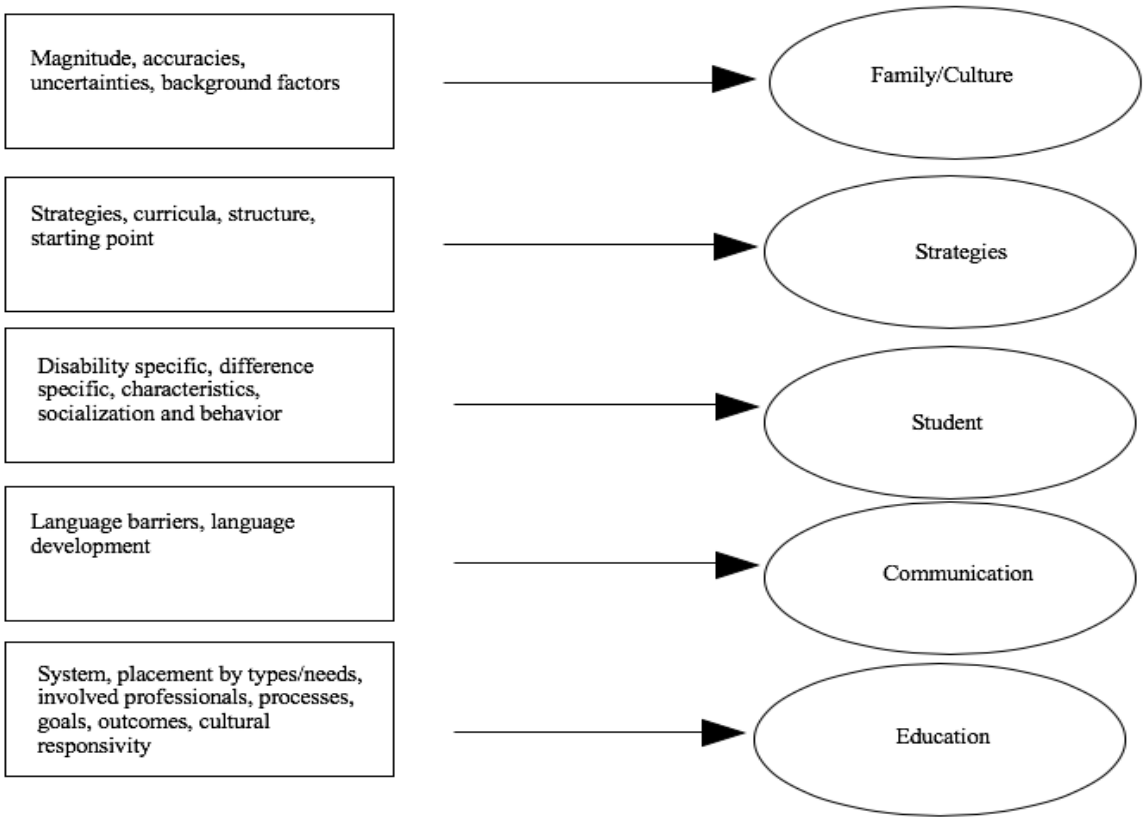

Figure 8. Overall themes.

Based on the themes developed in this study, it is important to consider the five themes displayed in Figure 9.

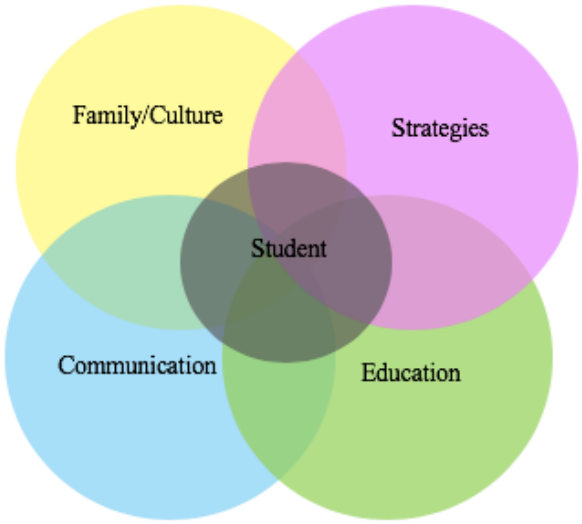

Figure 9. Theme visual.

When looking at Figure 9, it is important to view the interconnectedness of all components with the student at the center. Separating out these areas from one another and strategically placing them in one category versus another is challenging. However, knowing that each of these broader areas is critical to student development is of utmost importance. It may be beneficial to view this student as the focus or center of attention. After taking into consideration the student, it may be important to look at family and culture because student, family, and culture are going to drive identity. Qualified professionals using an interdisciplinary approach may be beneficial role models for students and good cultural responsiveness will help professionals understand and build student identity and contribute to the connection between student, family, and culture. Communication is essential for student success. Understanding language disconnects and language priorities will help to establish realistic goals while outcomes that are student-, family-, and professional-driven will help to motivate students resulting in a foundation that will enhance outcomes. Utilizing a variety of strategies is essential to achieve the

communication goals set by students, families, and professionals as well as academic and life goals.

Research Question 1

Research question 1 addressed the knowledge preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and teacher education faculty have about the population of d/DHH/EL. A variety of answers were presented in all the focus groups. The educators revealed that the population of d/DHH/ELs continues to grow and varies based on geographic region. Further, the criteria used to identify these learners included those with hearing loss and who spoke another language besides English. According to the teacher education faculty members, there are many characteristics that may represent this population and as such, educational placements for individuals who are d/DHH/EL differs. There are many language considerations for this population as well. A language disconnect was reiterated several times throughout all four focus groups with the educators and they indicated that when the language used to teach the student differs from the language used at home, this can create additional challenges.

The information shared by the groups of participants in this study were consistent with the available literature. For instance, the literature suggests that future projections for the year 2026 indicate an increase in minority populations (NCELA, 2017). Cook, Linquanti, Chinen, and Jung (2012) defined ELs as individuals who currently use or live in an environment where a language other than English is primary and ELs score in the limited proficiency range on screeners and assessments. Individuals who are d/DHH are defined as having a hearing loss and do not have the same access to sound as other (NIDCD, 2015). Curtin (2009) describes that a variety of program models are available ranging from immersion solely in native language to

immersion in English language and are determined based on student needs. Communication modalities range from LSL approaches to MC approaches in the d/DHH population (Gardiner-Walsh & Lenihan, 2017). Guardino, Cannon, and Eberest (2014) indicate that approximately 25% of d/DHH students come from homes where a language other than English is spoken. Leffel and Suskind (2013) stated that initiation of language development at a young age is critical. Individuals who are ELs have the ability to learn language but require enriched language learning opportunities, and often remain delayed more so than their typically-developing peers (Genesee et al., 2005). Teachers need to be able to assess language proficiency (Alvarez et al., 2014) because students need to be proficient in a language in order to communicate with family, friends, and acquaintances and this also becomes the foundation for reading and writing (Cannon & Luckner, 2016).

Research Question 2

Research question 2 addressed what the primary concerns each of the educator groups have about meeting the needs of students who are d/DHH/EL. There were many concerns identified through the focus groups about how to best meet the needs of the students in the d/DHH/EL population. Language disconnects arose as a concern. Again, when students are taught in one language and utilize another language at home, this created challenges.

August and colleagues (2009) indicated that EL learners often enter school and struggle academically. d/DHH students display delays in speech development, language acquisition, communication, and learning which ultimately impacts literacy development (ASHA, 2017). Roth, Paul, and Pierotti (2006) reported that literacy development supports a child's ability to read and write. Literacy growth is critical to one's success in life (NRP, 2000). However, due to decreased auditory information and delays in language these students struggle with literacy

(Spencer & Marshark, 2010). Students growing up in families and communities who follow the western culture often adjust better to school and classroom practices than students growing up in families and communities that are culturally diverse. When differences exist between home and school, this can negatively impact adjustments to school and academic performance (Phalet et al., 2004). Banks and colleagues (2005) stated that professionals need to be aware of their own culture and biases.

Research Question 3

Research question 3 addressed what strategies and interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL. An extensive list of strategies were revealed in the focus groups that included the use of aids, strategies, and intervention packages. Personal experiences also played a role in the focus groups; however, preservice teachers were able to provide the least about of experiences.

Within the literature explicit instruction, modeling, frequent opportunities to respond/practice, repetition, and shared reading/read aloud as strategies. Explicit instruction aids in literacy development because it requires the teacher to provide concise systematic instruction to students (Archer & Hughes, 2011; Gyovai et al., 2009; Gorman, 2009; Beal-Alvarez et al., 2011; Bergeron et al., 2009, Lederberg et al., 2014; Miller et al., 2013; Trezek & Malmgren 2005; Trezek & Wang, 2006; Trezek et al., 2007; Wang et al., 2013). Modeling is a beneficial approach to use because it decreases student error, increases self-regulated learning, and enhances understanding (Harbour et al., 2015). Repetition allows for mastery of new skills (Stahl, 2005; Tompkins, 2012). Cannon and Luckner (2016) indicated that students should be engaged in stimulating lessons, peer interactions, age-appropriate autonomy, and scaffolding. BICs is needed for day-to-day conversational skills and CALP is needed for academic success

(Cummins, 2000). Teachers must demonstrate cultural responsiveness by having an awareness of cultural knowledge to meet the needs of diverse students and make learning and experiences applicable to them (Gay, 2010). Having an understanding of the differences in this population and collaborating with other professionals as well as the family to try to achieve best outcomes is essential (Cannon & Luckner, 2016). Literacy is an essential skill that students need to learn in school and when the skill is not learned these students drop out of school, they can't get jobs, they have difficulty with social adjustments, as well as identity (Moats, 2001). Literacy is the key to their future success (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008; Neumann et al., 2000) and without literacy these students will never achieve their potential.

Connection to Theories of Language Development

Much of the information shared regarding knowledge, concerns, strategies and interventions for the d/DHH/EL population centered around language. This isn't surprising when one considers the importance of language in life success (Hart & Risley, 2003; Heath & Hogben, 2004; Jalongo, 2008; Kalmar, 2008). When considering language development practices with the d/DHH/EL population, considerations around the theories of language development come into play.

Within the behavioral theory of language acquisition environmental factors influence language learning (Kuder, 2013). Words and their associated meanings lead to further understanding of language and reinforcement of language proves to be beneficial in continued language learning. Success through environmental influences can be difficult to achieve when the input varies between environments. It can also be difficult to further develop understanding of words when individuals have a limited vocabulary in both languages and codeswitching

occurs. The behavioral theory of language acquisition also places an importance on reinforcement of correct utterances. This too is difficult when multiple languages are being used and reinforced in different environments.

The nativist theory of language development discusses language learning as being innate. Language is hardwired and individuals are born with the ability to learn language. When individuals present with obstacles that make language learning more difficult such as hearing loss and they have two languages being in which they are being immersed in one can only wonder how that impacts the innate nature of language.

Interactions among people are a critical component of the social interactionist theory of language development. Children choose a linguistic form that will best express their communicative intent (Tomasello, 2003) and from there language develops. This is challenging for individuals who are d/DHH/EL because they are presenting with a disability and differences that make it

Within this theory, a strong emphasis is placed on the fact that people talk to each other to communicate. People believe that language develops as children learn to choose the linguistic form that will best express their communicative intent (Tomasello, 2003). Depending on the educational placement of individuals who are d/DHH/EL and the language use desired and being taught peer interactions and interactions with individuals who are fluent in the chosen language might be minimal.

Lastly, there is the cognitive theory of language development. Within this theory, the thought is that cognitive development precedes language development. Individuals who are d/DHH/EL often come to the educational setting with unique language learning situations. It is

possible that they are at an age where cognitive items are beyond that of the language needing to be learned, but again a disconnect between languages is present.

All of the theories of language development can relate to various aspects of language learning for individuals who are d/DHH/ELs. Regardless of the language theory that one may see as most important, the d/DHH/EL population continues to face many challenges with language acquisition. Therefore, continuing to research best interventions and strategies to help educate this population may be essential to ensure their future success.

Implications

This qualitative study documented preservice, inservice, supervisors, and teacher education faculty member's knowledge, concerns, and strategies used for the d/DHH/EL population. Results of the study indicated that the knowledge, concerns, and interventions vary among the four focus groups which is consistent with the literature review because there is a significant gap in the literature with d/DHH/EL population.

Inconsistencies remain across educational strategies recommended for the d/DHH/EL population. This study provided insight into what preservice, inservice, supervisors and teaching education faculty members know about this population. Continuing to study this population will benefit educators by allowing for the best strategies to be utilized therefore, maximizing the potential of these students.

All preservice, inservice, supervisors, and teacher education faculty need to have an understanding of the d/DHH/EL population. Including material specific to this population in current teacher preparation courses or adding an additional course that focuses on this population may be beneficial to preservice teachers. This will allow for preservice teachers to enter the workforce more prepared for the populations they will teach.

Professional development opportunities are needed to gain a better understanding of this population. While the literature is still limited on this population, knowledge of strategies and resources can be utilized and analyzed to determine the benefits. Within those professional development sessions, information regarding potentially beneficial strategies to meet the needs of the d/DHH/EL population must be shared. Supervisors need to review the different program options that students may need. Evaluating the resources and types of programs used is going to be essential to contribute to the success of these students. A variety of programming options exist when individuals present with characteristics of d/DHH and EL. Oftentimes programs are geared towards one population, therefore, not equipped to meet all the needs that individuals present with. A similar situation can occur in regard to resources utilized. Resources specific to one population might be utilized for individuals who present with characteristics of both d/DHH and EL and might not be the best to utilize in an effort to reach full potential. Advocating for appropriate resources is also going to be necessary to optimize the success of this population. Hiring qualified teachers and interpreters is beneficial to create this success. Teacher education faculty need to understand the population and the resources available to educate preservice teachers. Faculty also need to be aware of available resources within districts.

Recommendations for Future Research

Opportunities for future research within this population seem endless, but three future research areas or areas of consideration seem to be critical in further developing an understanding for this population.

First, focus group information revealed that while each group was able to answer the questions asked of them, observations led to some uncertainty in their voice and inconsistencies in responses revealing a strong understanding of what to do is not present. Knowing this, it

seems vital to begin looking at the education that is being provided to preservice teachers regarding this population. Based on information derived from looking at what is being offered, it might be necessary to restructure course set-ups, add an additional course, or add additional information regarding the d/DHH/EL population into preparation courses. In an effort to support individuals who are already in the field, there might be the need for professional development sessions, conferences, or workshops that focus on aspects of this population.

Second, it would be beneficial to determine a way to better understand each individual student and their family in an effort to adequately meet student needs. Meeting student needs would result in placement considerations, strategies utilized, professionals involved, cultural responsivity, and language considerations to say a few, therefore, encompassing many of the items brought up within focus groups. It seems as if the most beneficial way to do this would be to create an assessment to use with this population. Along with a student assessment, a questionnaire or checklist that collects family information and priorities would be beneficial when assisting families to set goals. Starting off with information that carefully defines and describes the student and their family would likely be beneficial in planning.

Lastly, it would be beneficial to conduct intervention studies using the strategies that were found to overlap among the d/DHH and EL populations. In the literature, those strategies were utilized within interventions for the population groups, but it is impossible to determine if those strategies were solely responsible for the outcomes or if it was other things such as length, duration, combination of strategies, or implementation. Therefore, specifically looking at individual strategies for the development of literacy skills will potentially give teachers a starting place among a variety of strategies to utilize with their students.

Limitations

The design of this study, sampling methods, procedures, and analysis were well sought out prior to conducting the study, however, limitations still existed. Four focus groups were conducted which included preservice teachers, inservice teachers, supervisors of deaf/hard of hearing programs, and teacher education faculty. A purposive sample was used at each location and participants received an invitation email prior to arriving to the conferences. In purposive sampling, the researcher determines the information that needs to be acquired and aims to find people who can offer that information based on their knowledge and experiences (Etikan, Musa, & Alkassim, 2016). Since the samples were done at only four different locations and participants had to be in attendance at one of the four conferences to participate in the study, bias may have been a factor because the four conferences were specifically chosen and may have limited others input who were not interested or able to attend.

The design of the study can also be a limitation. Participants self-selected whether they participated in the study. There were also limitations in the way the focus groups were conducted. Questions were asked to the group and participants answered. However, frequency counts were unable to be obtained because once one participant answered a question, occasionally more would agree and add to that response, but in many instances, participants chose to answer with other responses. Therefore, gaining an understanding of exactly how many participants agreed with an answer was impossible. The researcher also refrained from asking any additional questions so clarifications could not be made.

An additional limitation was the lack of demographic data collected within each group. While, it was assumed that students were preservice teachers, and participants at ITDHH were inservice teachers, and participants at ISHI were supervisors, and participants at ACEDHH were

faculty there is not information to determine if that is their actual roles. For example, aids, Speech Language Pathologists (SLPs), Audiologists, or educational interpreters could have been in attendance. Furthermore, it was impossible to know participants geographic location, therefore, one could assume all participants were from the same area, district, and school.

Another limitation was the size of the focus groups. The sampling methods used were not conducive to knowing the number of participants prior to the start of each focus group. No rules on the total number of participants within a focus group exist, however, suggestions of six to 10 participants have been made (Merriam, 2009, p. 94). Knowing the numbers ahead of time might have allowed for additional focus groups to be held, therefore, resulting in smaller numbers.

Summary and Conclusion

The d/DHH/EL population continues to grow, and more information is needed to meet the demands of this increasing population. The literature and this study indicated that there are gaps in knowledge regarding this population. These gaps continue to make educating this population a challenge and is a disservice to this population. As previously mentioned, communication is essential to everyday life. Communication is a primary concern for this population and this is concerning given the importance of communication.

Results of this study indicate that preservice teachers, inservice teachers, supervisors of d/DHH programs, and teacher education faculty members feel that the topic of individuals who are d/DHH/ELs is important. Furthermore, it seemed as if there was a general sense of urgency for more information regarding knowledge, concerns, and strategies to be solidified to assist in teaching the population. These results solidify the need to continue research on this population of learners. It is also important to note that no patterns were prevalent in the responses from the

individual groups. This is concerning when considering the interconnectedness of the stakeholder groups. For instance, the teacher education faculty members are teaching the preservice teachers, therefore, one might think overlap would be present. Similarly the inservice teachers and the supervisors of d/DHH programs are working together in the schools. Responses provided within participant groups along with lack of patterns reiterate the importance of this topic for the future success of students who are d/DHH/ELs.

Without proper knowledge and strategies, the d/DHH/EL population is at risk of continuing to be more delayed than their hearing peers. This impacts their current life situations when communicating with family, fitting in with friends, and developing a sense of identity. It has potential additional impacts on their future when considering the skills required to obtain jobs, get driver's license, and have lives similar to their peers. Therefore, understanding the needs of population and appropriate educational practices are essential to improving their lives.

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APPENDIX A: INSTRUMENT

Research Question 1: What knowledge do preservice teachers of the deaf, inservice teachers of the deaf, supervisors of teachers of the deaf, and faculty members for d/DHH education have about the population of d/DHH/EL?

Focus Group Questions:

1. What do you know about the size of the d/DHH/EL population?
2. What constitutes an individual as being d/DHH/EL?
3. What characteristics are often discussed/seen in the d/DHH/EL population?
4. What do educational placement options look like for the d/DHH/EL population?
5. Language considerations come up with this population, what information or thoughts do you have regarding that?
6. An interrelatedness exists between language, culture, and identity, what might that mean for this population?

Research Question 2: What are the primary concerns each of those groups have about meeting the needs of students who are d/DHH/EL?

Focus Group Questions:

7. What do you feel are some of the biggest challenges in meeting the needs of d/DHH/EL population?
8. What are your primary concerns related to meeting the need of the d/DHH/EL population?
9. In your experiences with this population, what has been challenging and/or concerning?

Research Question 3: What interventions are recommended by teachers of the deaf for working with students who are d/DHH/EL?

Focus Group Questions:

10. To aid in literacy and language development, how would you teach students who are d/DHH/EL?
11. What are the specific teaching strategies you would utilize primarily with this population?
12. Is there an intervention package you would suggest using with this population? If so, what is it and why?
13. In your experiences with this population, are there strategies or interventions that you have utilized that have been successful

APPENDIX B: IRB APPROVAL & MODIFICATIONS

Jan 24, 2019 9:40 PM CST

Christina Borders
Special Education

Re: Exempt - Initial - IRB-2018-577 Teacher knowledge of literacy strategies for D/deaf/hard of hearing English learners

Dear Dr. Christina Borders:

Illinois State University Institutional Review Board has rendered the decision that your study qualifies for exempt determination.

Selected Category: Category 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.

The Exempt Status does not relieve the investigator of any responsibilities relating to the research participants. Research should be conducted in accordance with the ethical principles, (1) Respect for Persons, (ii) Beneficence, and (iii) Justice, as outlined in the Belmont Report.

Any change to the protocol or study materials that might affect the Exempt Status must be submitted in Cayuse IRB. Depending on the changes, you may be required to apply for either Expedited or Full Review. Please contact the Human Subject Research Specialist to determine if your modifications meet these criteria at 309-438-5527 or irb@ilstu.edu.

Sincerely,

Illinois State University Institutional Review Board

ILLINOIS STATE UNIVERSITY
Illinois' first public university.

Feb 18, 2019 10:25 AM CST

Christina Borders
Special Education

Re: Modification - IRB-2018-577 Teacher knowledge of literacy strategies for D/deaf/hard of hearing English learners

Dear Dr. Christina Borders:

Illinois State University Institutional Review Board has rendered the decision that your study qualifies for exempt determination contingent upon making changes as articulated below. These changes must be made before any research-related activities occur. You are not required to submit these revisions to the IRB to receive final approval, but proceeding with the research before the changes have been completed may result in a finding of noncompliance.

Selected Category: Category 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.

The Exempt Status does not relieve the investigator of any responsibilities relating to the research participants. Research should be conducted in accordance with the ethical principles, (1) Respect for Persons, (ii) Beneficence, and (iii) Justice, as outlined in the Belmont Report.

Any change to the protocol or study materials that might affect the Exempt Status must be submitted in Cayuse IRB. Depending on the changes, you may be required to apply for either Expedited or Full Review. Please contact the Human Subject Research Specialist to determine if your modifications meet these criteria at 309-438-5527 or irb@ilstu.edu.

The following issues must be addressed before any research-related activities occur. These issues can be seen as comments in the submission form and are found in the sections showing grey bubbles instead of green checkmarks. Since these issues were determined to not impact the exempt status, the revisions to these specific comments do not need to be resubmitted for review.

- Please go into the submission and make revisions based upon the comments in the "Consent" section.

ILLINOIS STATE UNIVERSITY
Illinois' first public university.

Feb 19, 2019 4:07 PM CST

Christina Borders
Special Education

Re: Modification - IRB-2018-577 Teacher knowledge of literacy strategies for D/deaf/hard of hearing English learners

Dear Dr. Christina Borders:

Illinois State University Institutional Review Board has rendered the decision below for Teacher knowledge of literacy strategies for D/deaf/hard of hearing English learners.

Decision: Exempt

Please note that any further modification to previously approved materials must be approved by this committee prior to initiation.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

Sincerely,

Illinois State University Institutional Review Board

APPENDIX C: INFORMED CONSENT

Introduction

My name is Molly Turner and I am a doctoral student at Illinois State University. I am conducting a qualitative study to explore knowledge, concerns, and strategies for students who are D/deaf/Hard of Hearing and English Learners (d/DHH/ELs). The population of English learners (ELs) continues to increase and many teachers of the deaf are not prepared to teach this population. This has led to my interest in understanding preservice teachers', inservice teachers', supervisors' of teachers of the deaf and faculty members' knowledge, concerns, and strategies to educate English learners.

Procedures

If you choose to take part in this research study, you will participate in a one-hour focus group session. Thirteen questions will be asked throughout the session for your response. The session will be video-taped. Following the session, the video recordings will be reviewed and transcribed to determine common themes in knowledge, concerns, and strategies. Information from the session will be utilized to further inform the field about the population of d/DHH/ELs. You may choose to opt out at any point in time.

Risks/Discomforts

There are risks involved in all research studies. However, this study includes only minimal risks. There are risks of loss of confidentiality and potential feelings of discomfort answering questions in the focus group.

Benefits

There may be no direct benefits to you as a participant in this study. However, some may feel positive about providing input on improving strategies to educate English learners.

Confidentiality

All information gathered in this study will be kept as confidential as possible. No reference will made in written or oral materials that could link you this study. It is important for you to keep what others say throughout the focus group confidential too. All records will be stored on Molly Turner's password-protected computers and hard copy documents will be stored in Christy Border's locked office at Illinois State University for 3 years after the completion of the study. After that time, the information gathered will be destroyed.

Compensation

There will be no financial cost or compensation to you to participate in this study. However, participants will receive a link to EdPuzzles on statistics and strategies found in a literature review relevant to the d/DHH/EL population.

Participation

Your participation in this study is voluntary. You may refuse to participate in this study at any time. You may refuse to answer any question you do not wish to answer. You may withdraw from the study at any time.

Questions about the Research

For questions about this research, Molly Turner can be contacted at 309-438-2569 or mbturn1@ilstu.edu or Christy Borders can be contacted at 309-438-5829 or cmborders@ilstu.edu.

You will be given a copy of this consent form for your records.

I consent to participating in the above study. As a participant in this study you will be video recorded. Agreeing to participate in the study indicates your permission to be video recorded throughout the session.

Signature _____

Date _____

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Research Ethics & Compliance Office at Illinois State University at (309) 438-5527 or via email at rec@ilstu.edu.

APPENDIX D: EDPUZZLES

Hello,

Thank you so much for taking the time to participate in my research study at one of the following conferences: ACEDHH, ISHI, ITDHH or in the following class at ISU: SED 327. I truly appreciate your participation. Below are the links to the Edpuzzles that were mentioned following your participation in the study.

https://edpuzzle.com/media/5cf5a45dca9a66411e730b38 - Statistics

https://edpuzzle.com/media/5cf59d8cca9a66411e72c25e - Explicit Instruction

https://edpuzzle.com/media/5cf59bd8ca9a66411e72bdd8 - Shared Reading

https://edpuzzle.com/media/5cf599dfca9a66411e72a46a - Modeling

https://edpuzzle.com/media/5cf59762ca9a66411e72936c - Repetition

https://edpuzzle.com/media/5cf593dbc9ee72412508731f - Frequent Opportunities to Respond

Thanks again for your time and contributions to my research.

Thank you,
Molly Turner
Ed.D. Candidate
Illinois State University